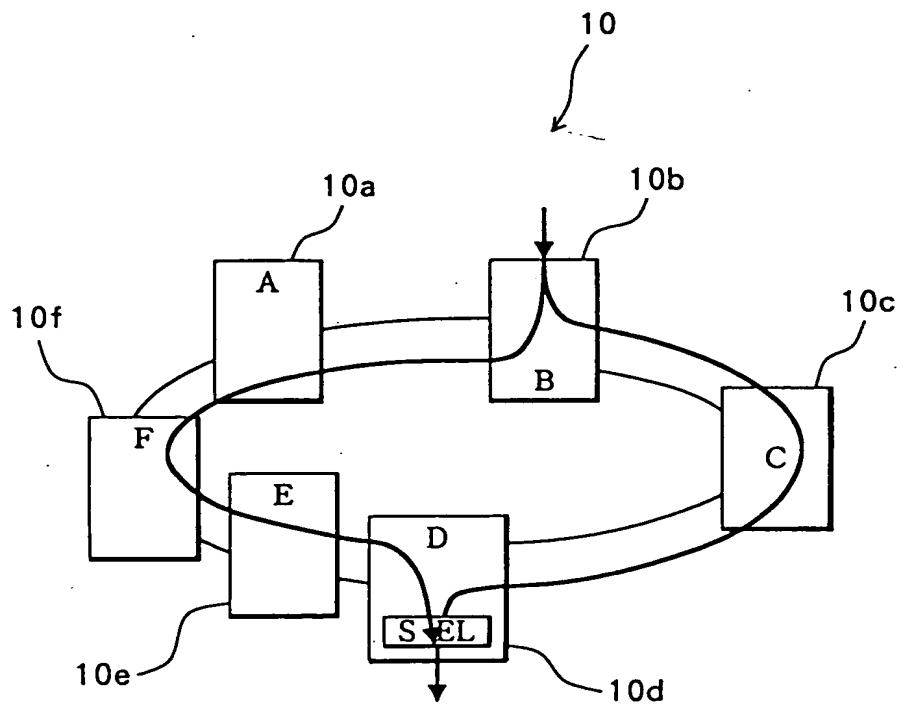


FIG. 1



09695612 - 102400

FIG. 2

1

EAST SIDE		WEST SIDE	
E→W DIRECTION	SOURCE	DESTINATION	SOURCE
W→E DIRECTION	DESTINATION	SOURCE	DESTINATION
TRANSMIT		RECEIVE	
E→W DIRECTION	SOURCE	DESTINATION	SOURCE
W→E DIRECTION	DESTINATION	SOURCE	DESTINATION

SOURCE : 4BITS
DESTINATION : 4BITS

FIG. 3

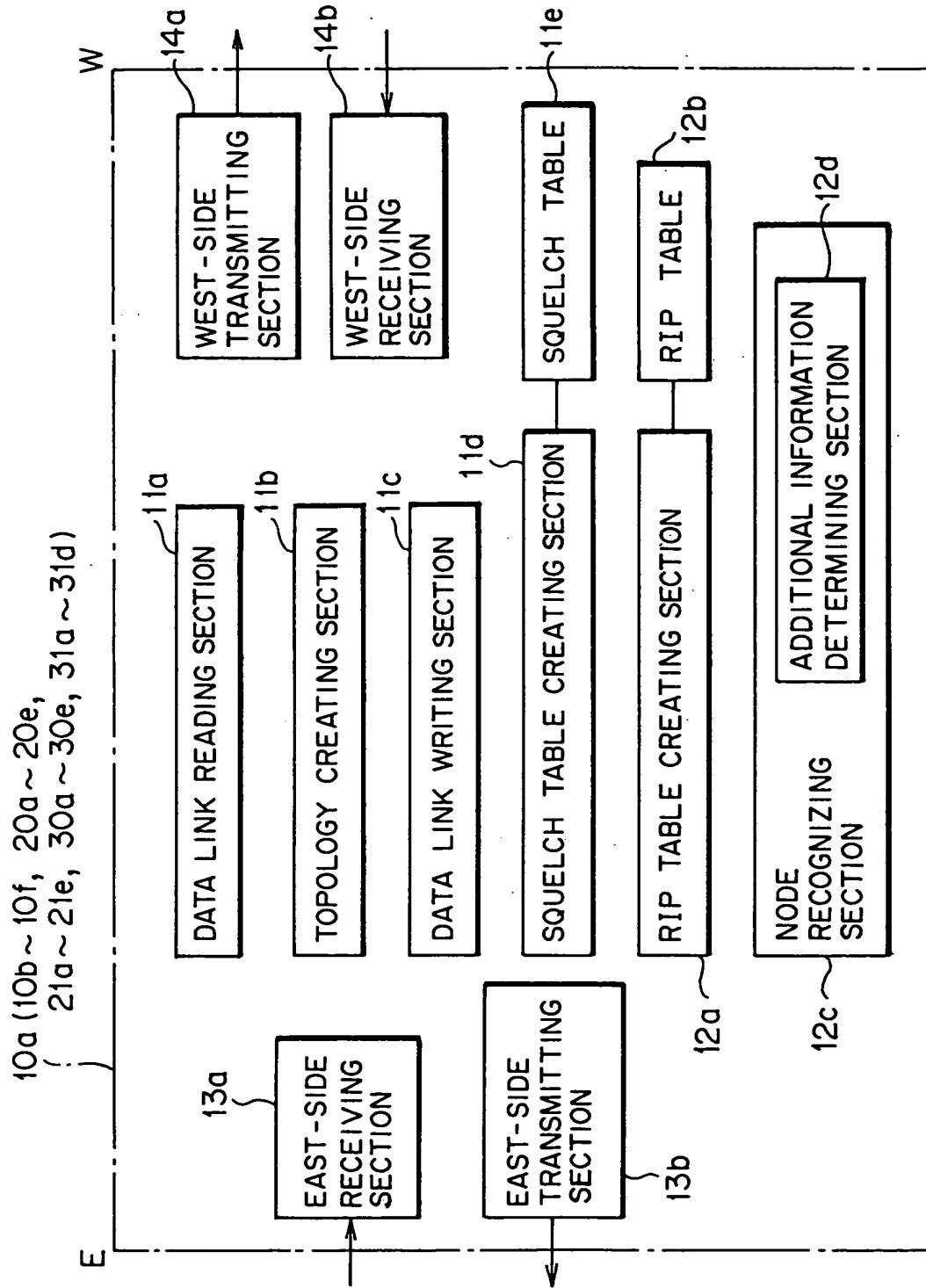


FIG. 4(a)

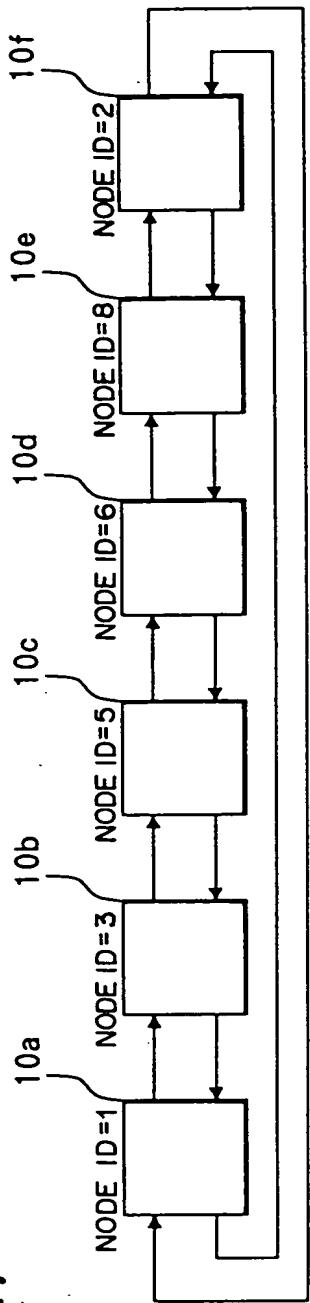


FIG. 4(b)

NODE ID	1	3	5	6	8	2
TOPOLOGY TABLE	1,3,5,6,8,2	3,5,6,8,2,1	5,6,8,2,1,3	6,8,2,1,3,5	8,2,1,3,5,6	2,1,3,5,6,8

FIG. 4(c)

RELATIVE INDICATED ID	NODE 1 INDICATED NODE	NODE 3 INDICATED NODE	NODE 5 INDICATED NODE	NODE 6 INDICATED NODE	NODE 8 INDICATED NODE	NODE 2 INDICATED NODE
0	1	3	5	6	8	2
1	3	5	6	8	2	1
2	5	6	8	2	1	3
3	6	8	2	1	3	5
4	8	2	1	3	5	6
5	2	1	3	5	6	8

09695613 - 1022400

FIG. 5(a) FIG. 5(b) FIG. 5(c) FIG. 5(d)

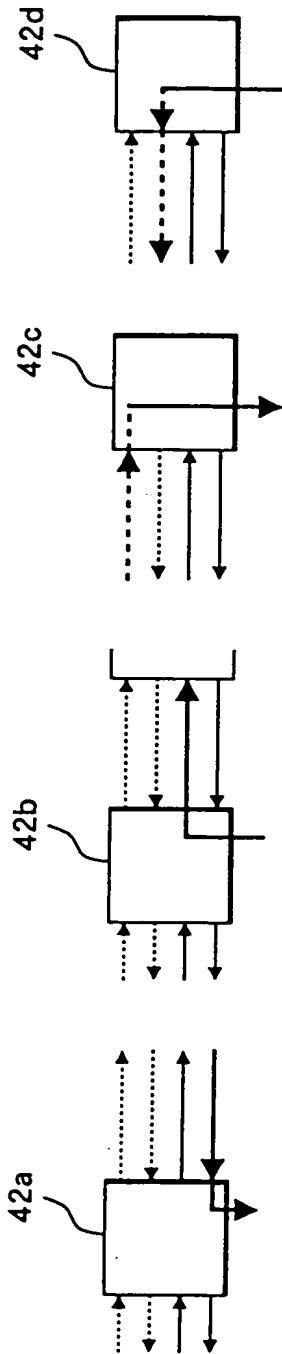


FIG. 6(a)

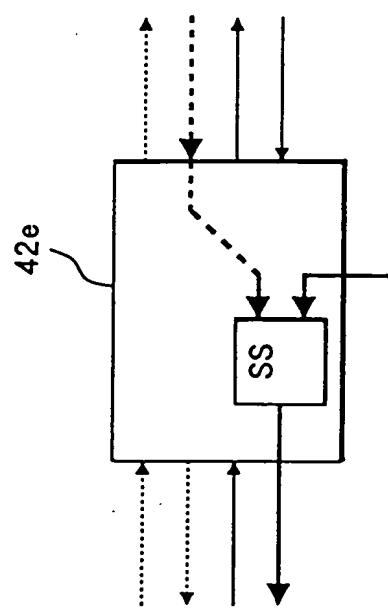


FIG. 6(b)

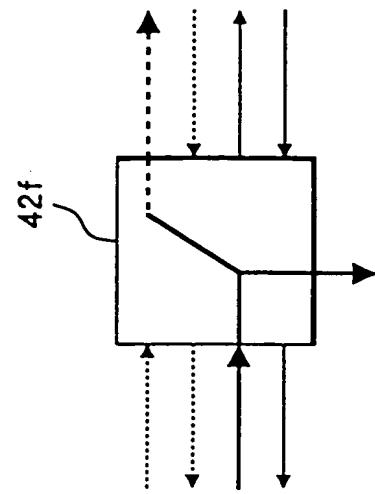


FIG. 7(a)

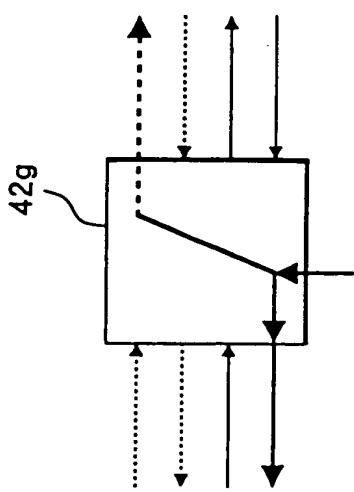


FIG. 7(b)

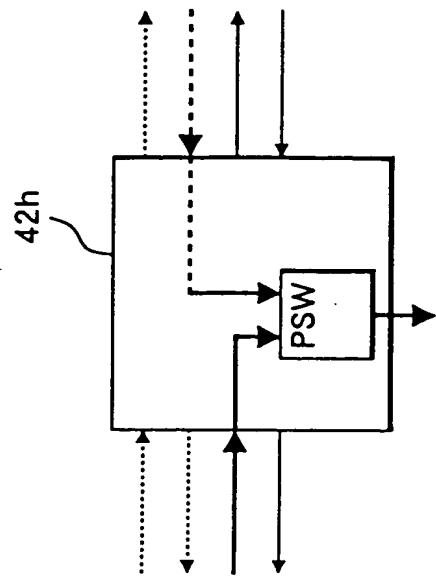
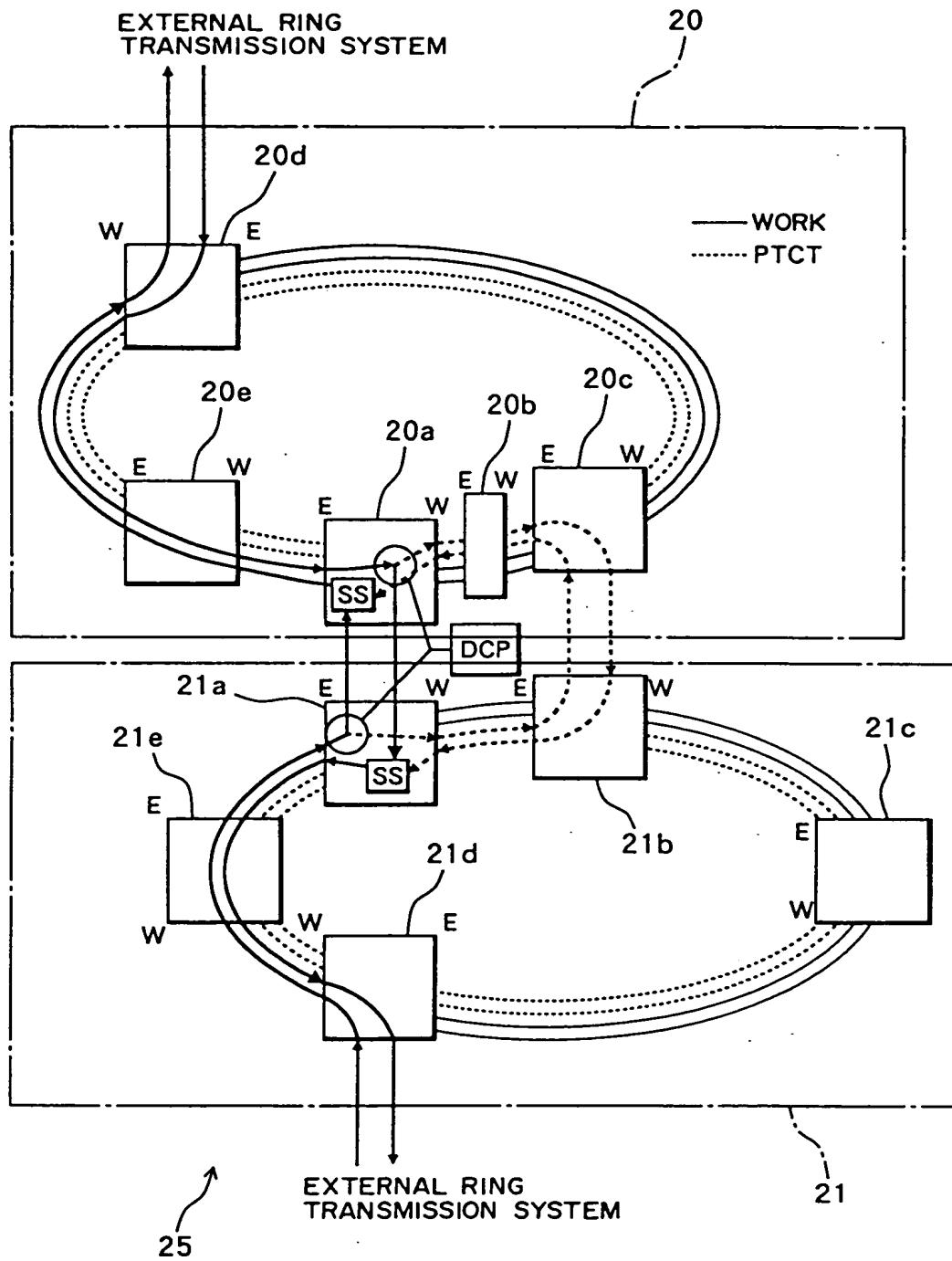


FIG. 8



09695612 - 102400

ADD DROP NODE

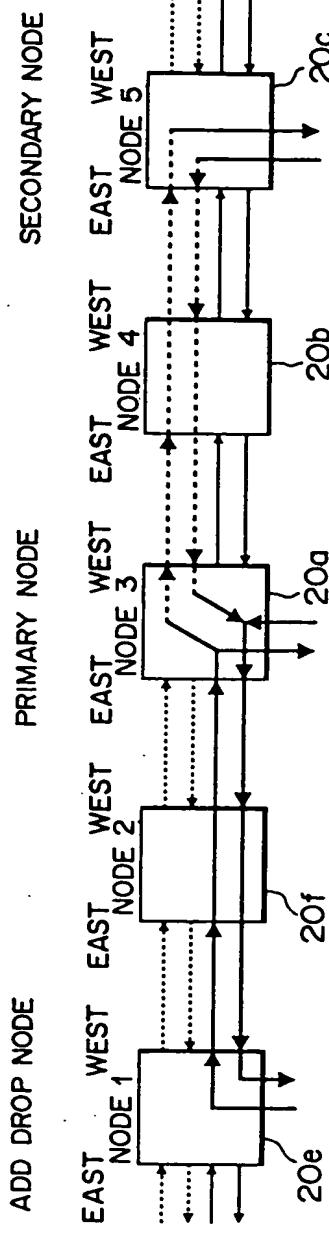


FIG. 9(a)

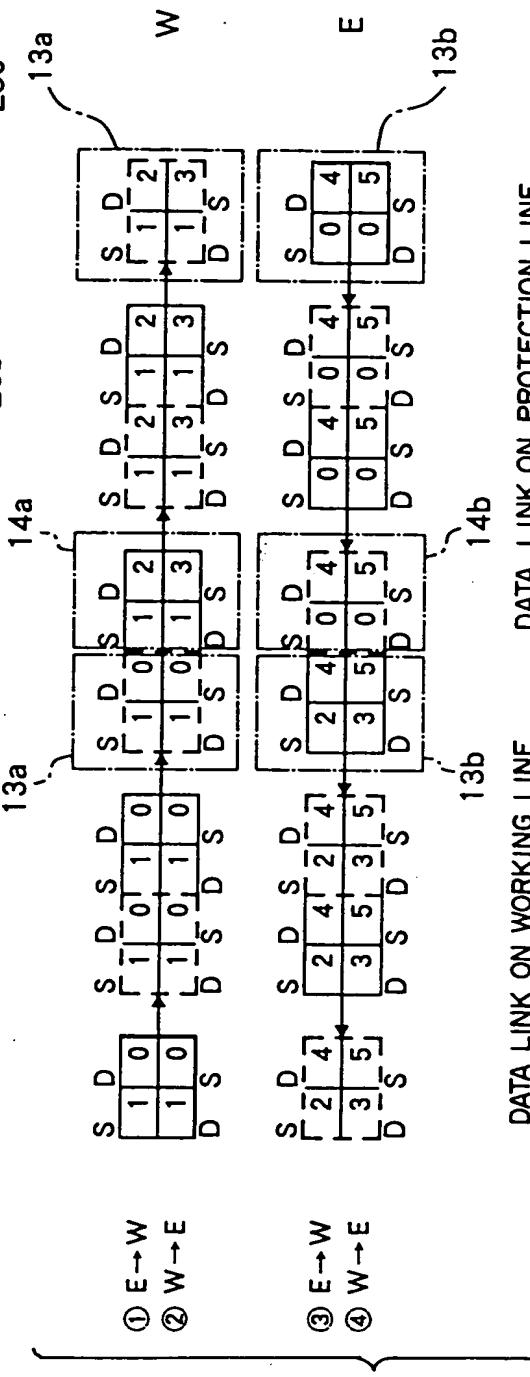
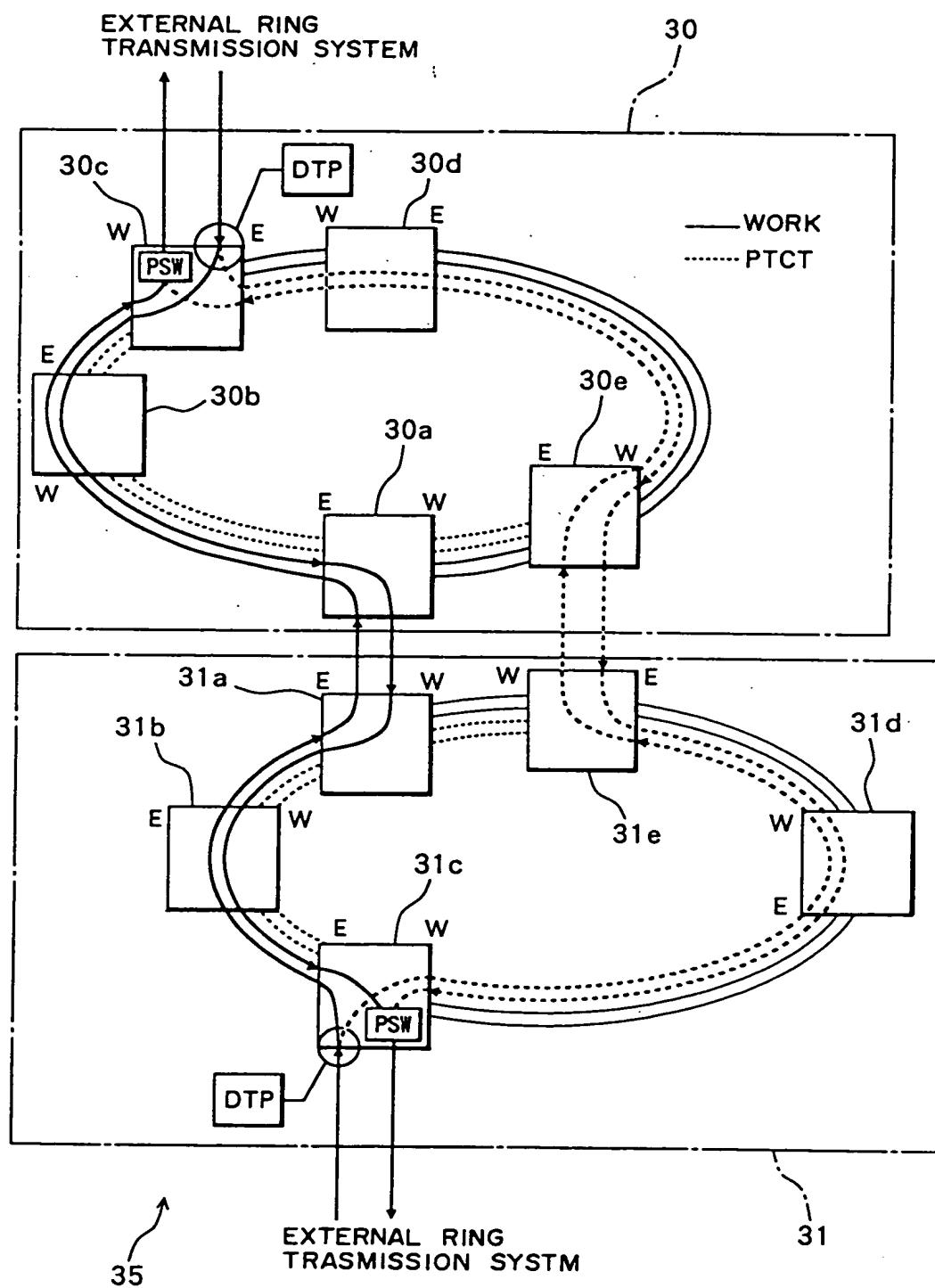


FIG. 9(b)

□: TRANSMITTING SECTION S: SOURCE ID PART
 □: RECEIVING SECTION D: DESTINATION ID PART

DATA LINK ON WORKING LINE DATA LINK ON PROTECTION LINE

FIG. 10



ପ୍ରକାଶକ ମାଲା

FIG. 11(a)

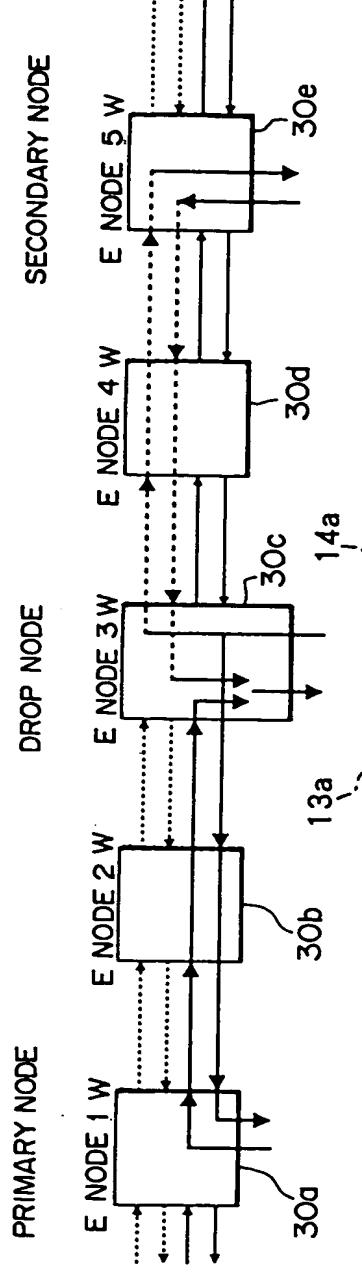
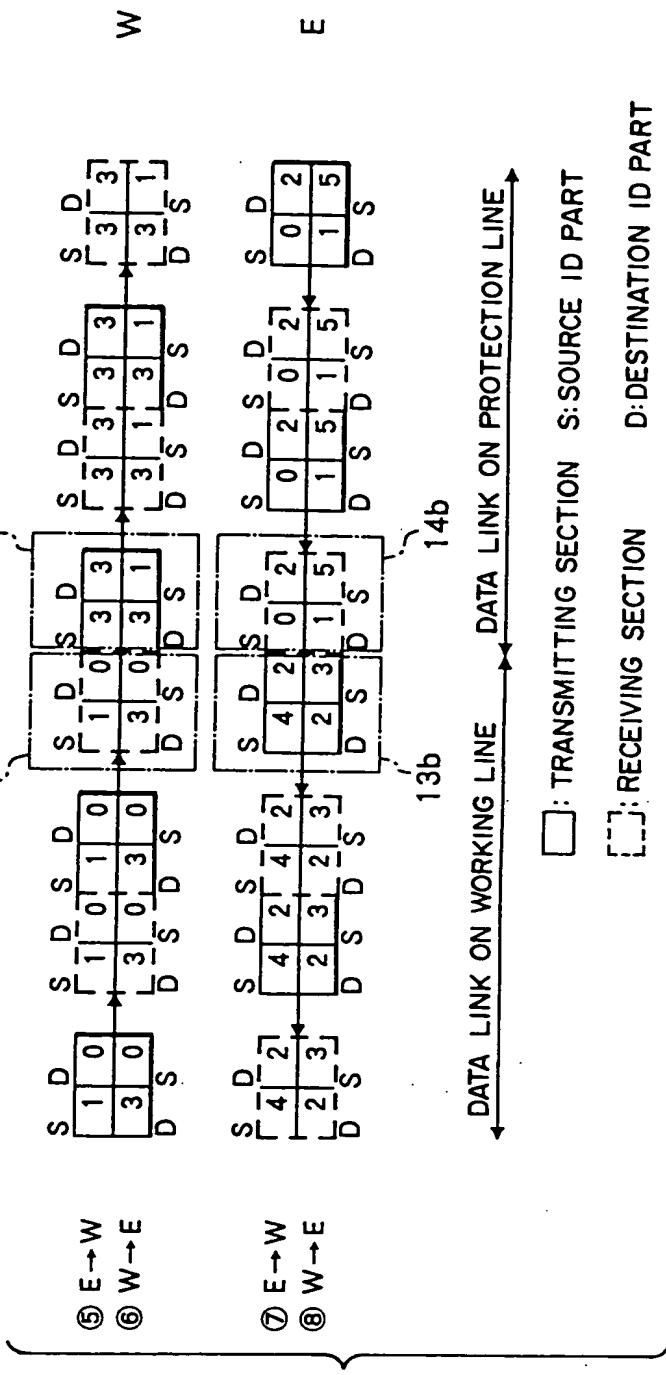


FIG. 1(b)



TRANSMITTING SECTION S: SOURCE ID PART

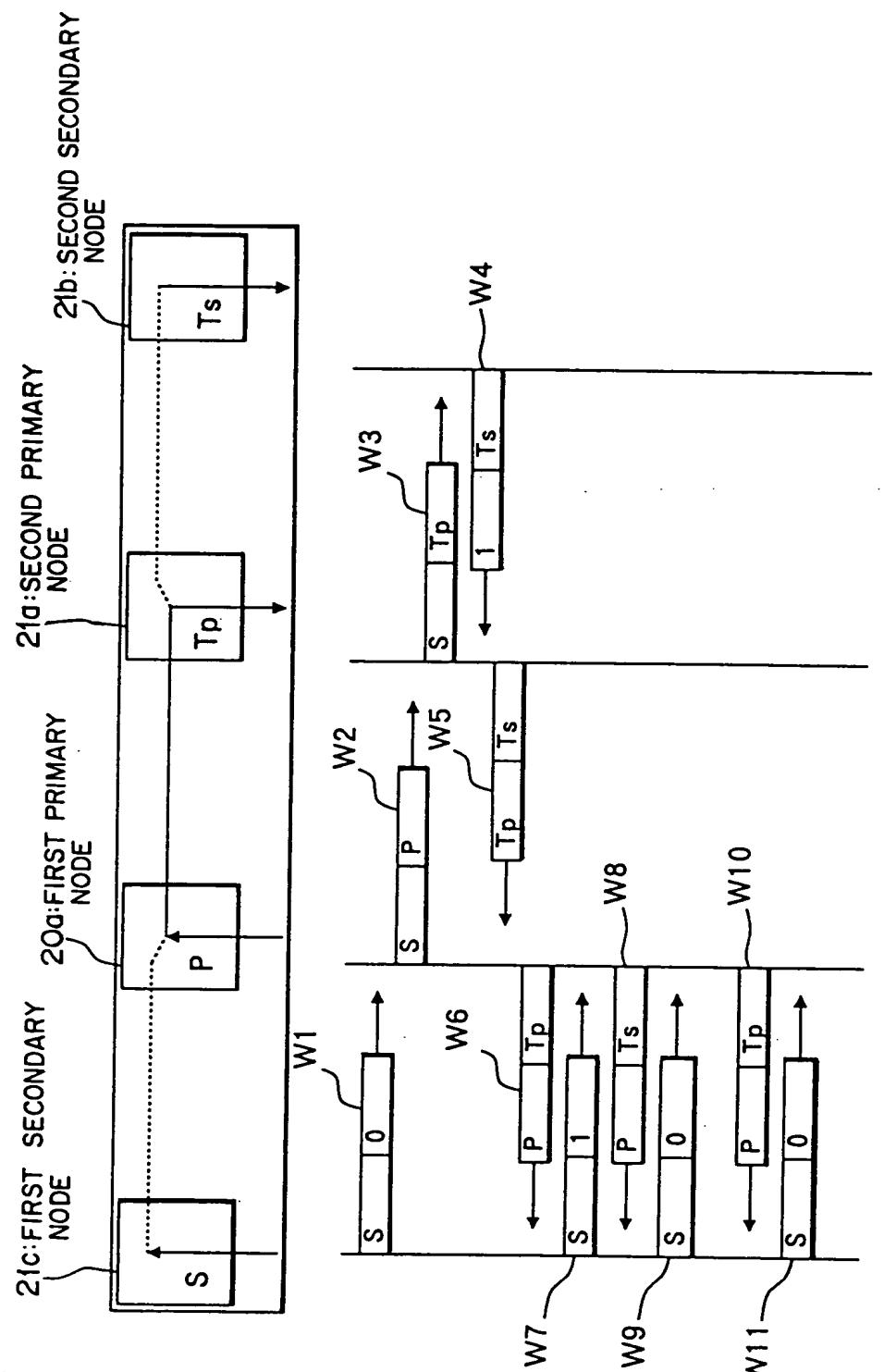
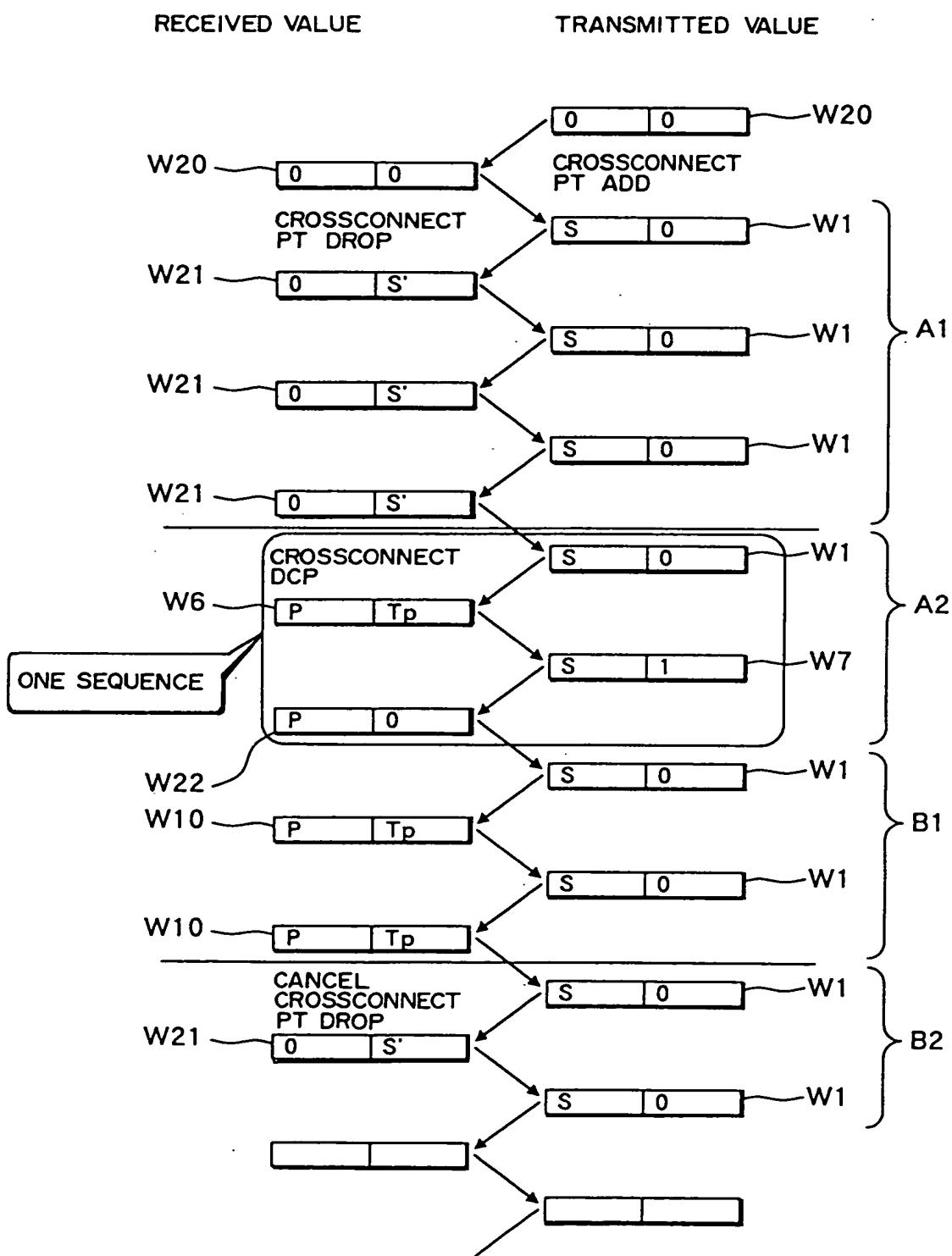


FIG. 12

FIG. 13



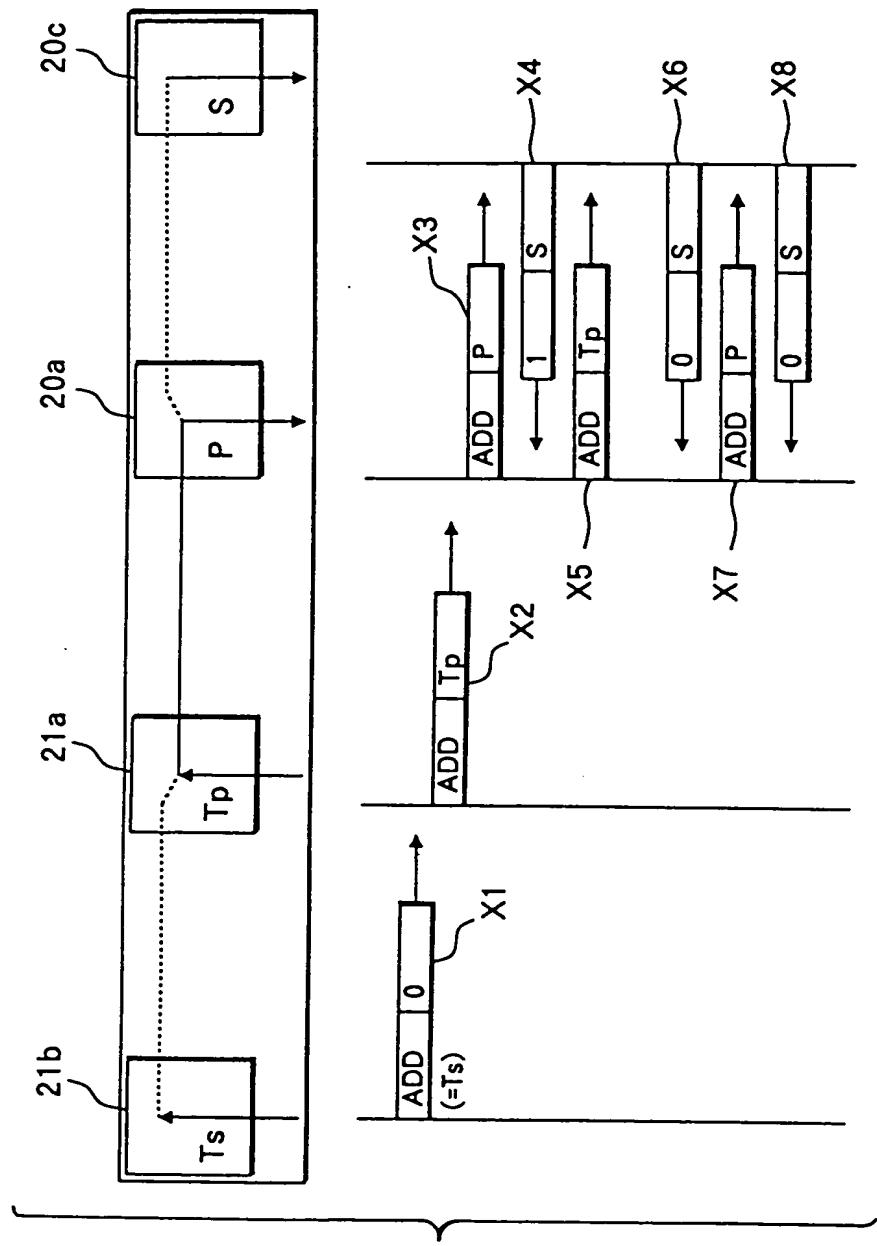


FIG. 14

FIG. 15

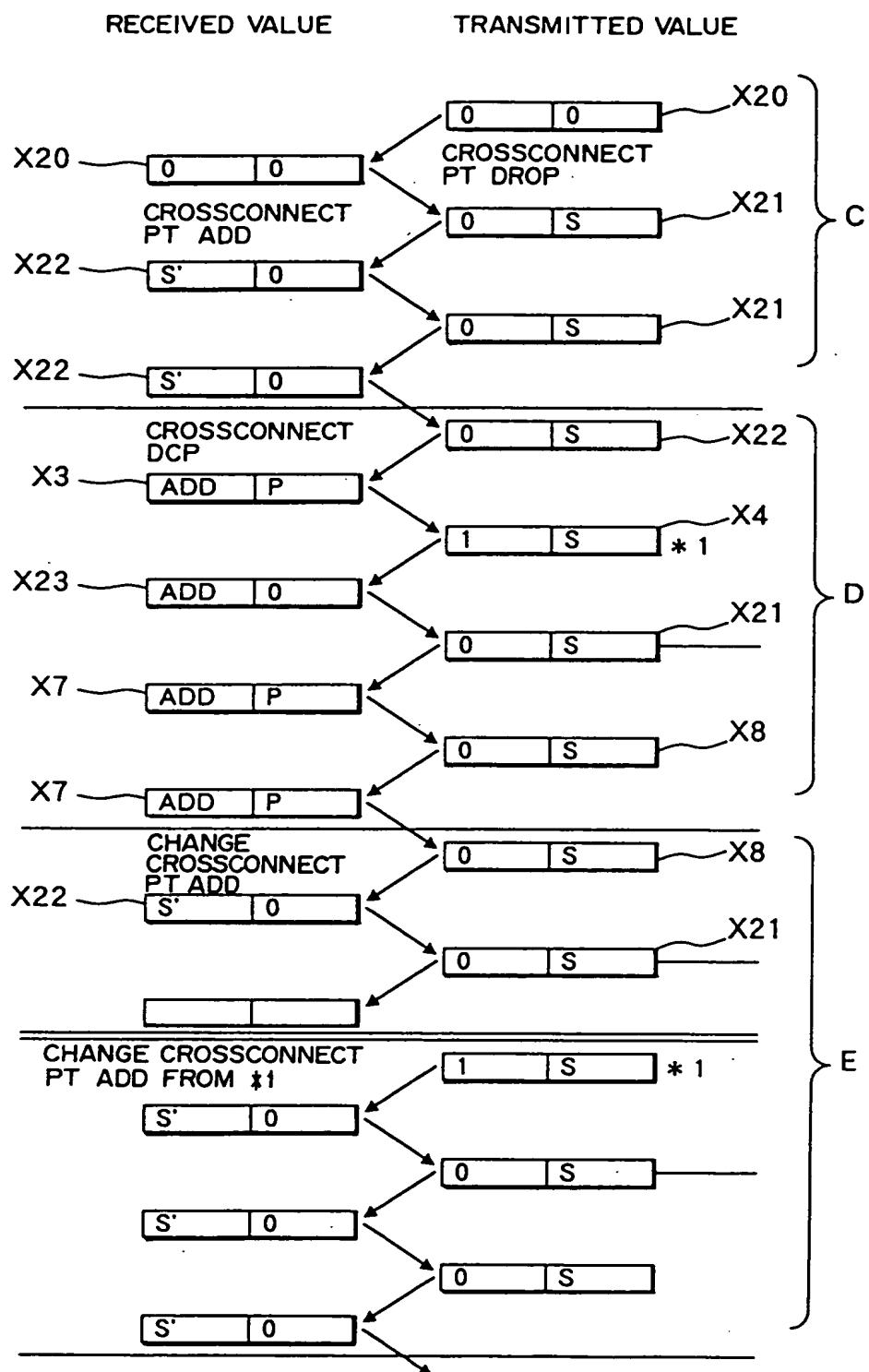
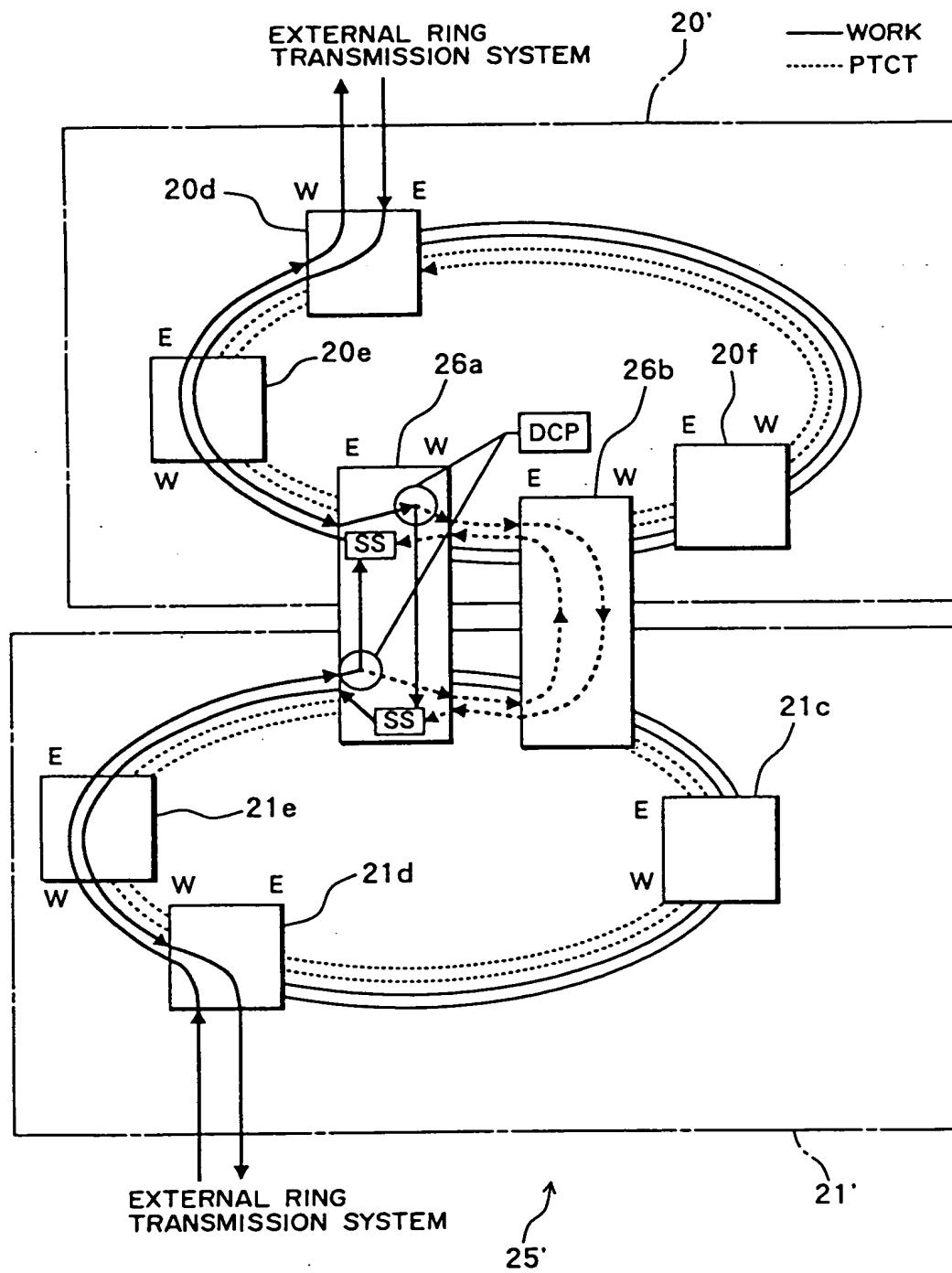
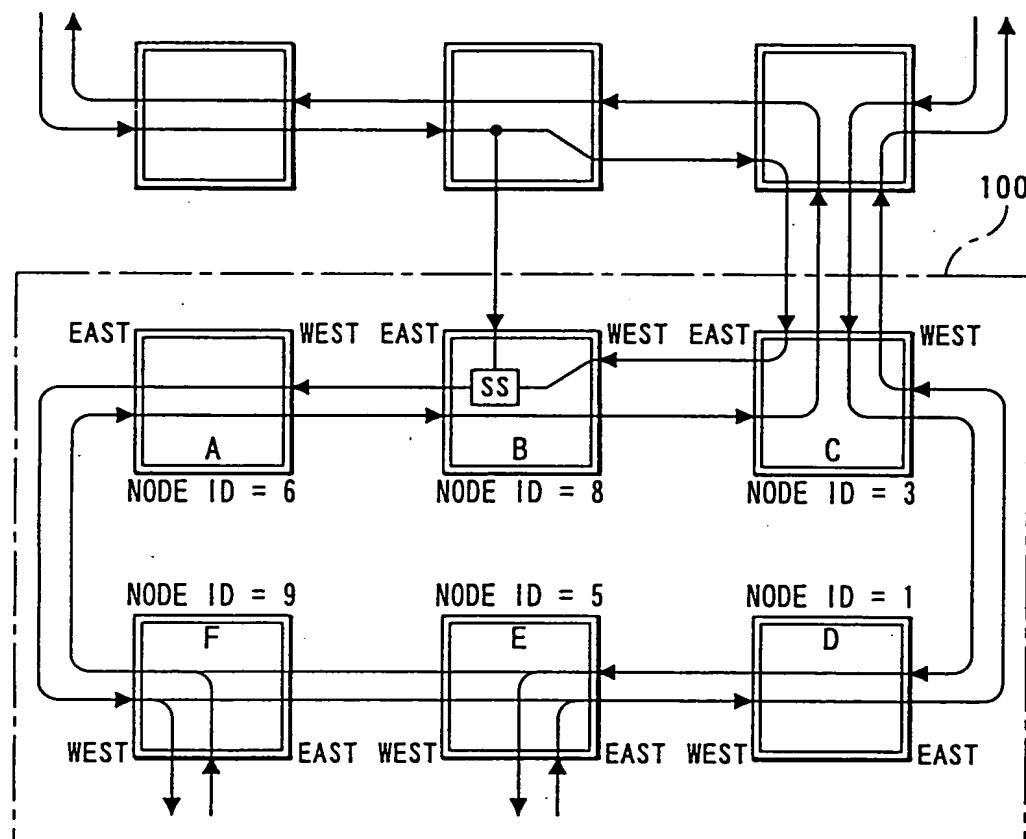


FIG. 16



00124100 - 102400

FIG. 17



09695612 - 102400

FIG.18

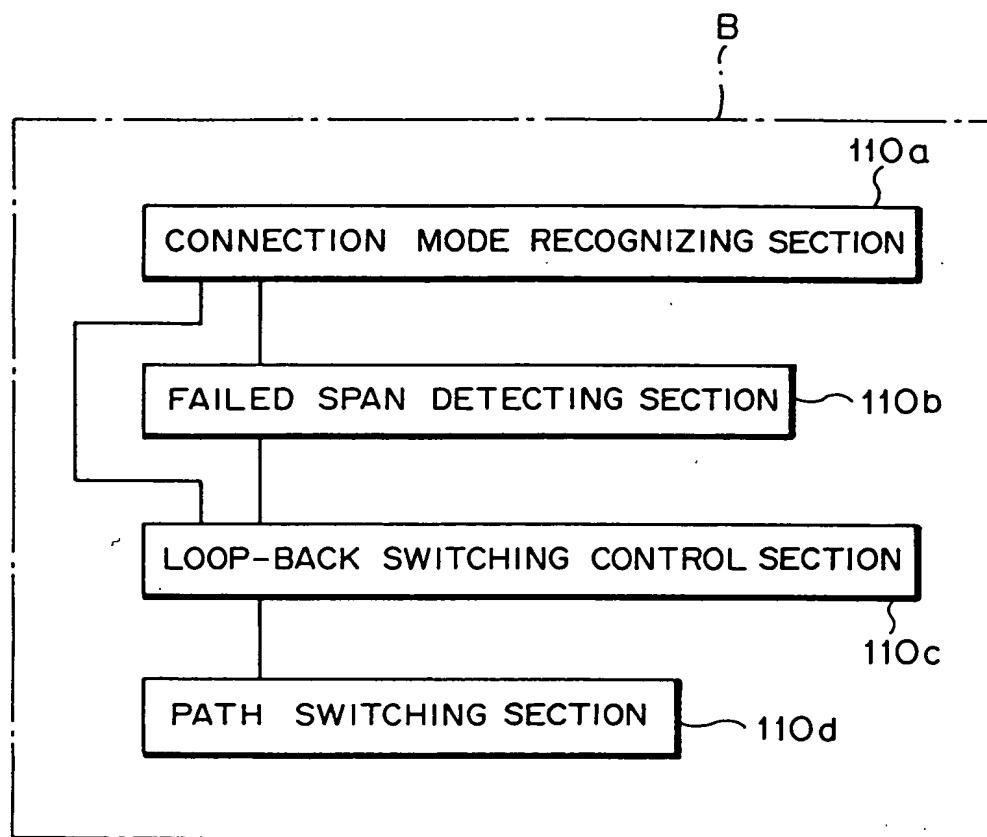


FIG.19(a)

- RING MAP OF B NODE (NODE ID = 8)

	EAST → WEST					
NODE NAME	B	C	D	E	F	A
NODE ID	8	3	1	5	9	6

FIG.19(b)

- RING MAP OF C NODE (NODE ID = 3)

	EAST → WEST					
NODE NAME	C	D	E	F	A	B
NODE ID	3	1	5	9	6	8

FIG. 20

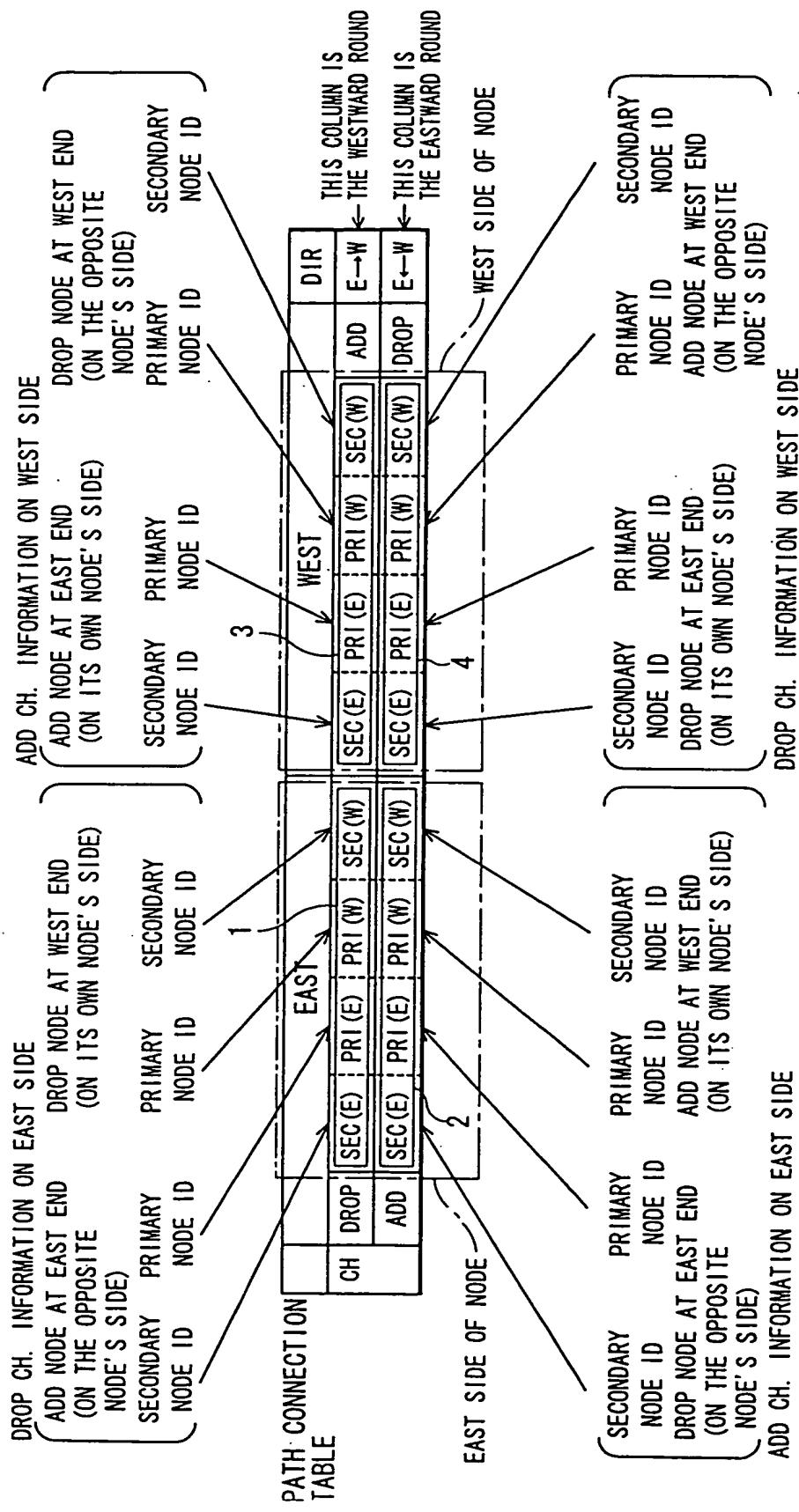


FIG. 21

NETWORK STRUCTURE INFORMATION TABLE (DCP/DTP/DCW/DTW STRUCTURE)

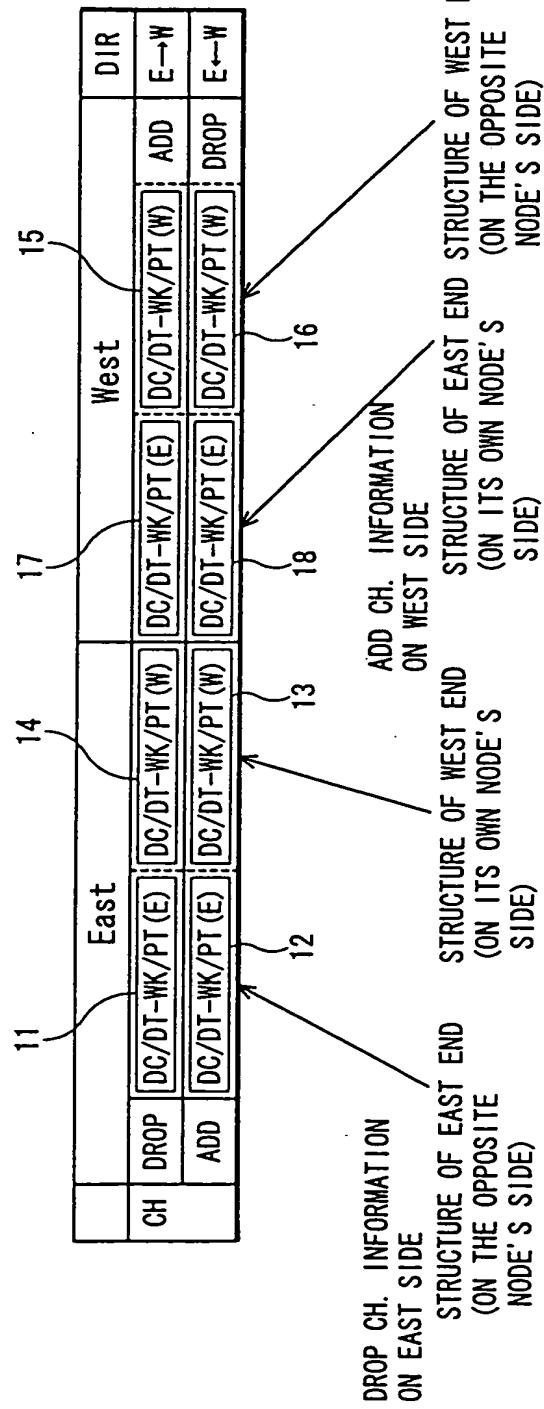


FIG. 22

**FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE
OF DCP)**

	Failure detection pattern	Operation of primary node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Only DROP, stop service selector	Access to PTCT line in the opposite direction	(2-a)
b	Failure in working line not involving primary node	Same above	Access to PTCT line in the opposite direction, set "drop & continue" ¹⁾ , set service selector ¹⁾	(2-γ)
c	Failure in protection line in the single-sided	Same above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same above	Same above	(1)
e	Failure in protection line in the double-sided	Same above	Access to PTCT line in the opposite direction	Exception

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Comment 2) Pattern only in double-sided DCP.

Note) Contents of c and d are equivalent.

FIG. 23

**FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE
OF DTP)**

	Failure detection pattern	Operation of terminal node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Stop bridging to PTCT, stop path-switching	Access to PTCT line in the forward direction	(2-a)
b	Failure in working line not involving primary node	Same as above	Access to PTCT line in the forward direction, set 'drop & continue' ¹⁾ , set service selector ¹⁾	(2-γ)
c	Failure in protection line	Same as above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same as above	Same as above	(1)

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Note) Contents of c and d are equivalent.

Note) Operation of secondary node is to access to PTCT line in the opposite direction in DCP, but to access in the forward direction (direction in which the secondary node originally accesses) in DTP.

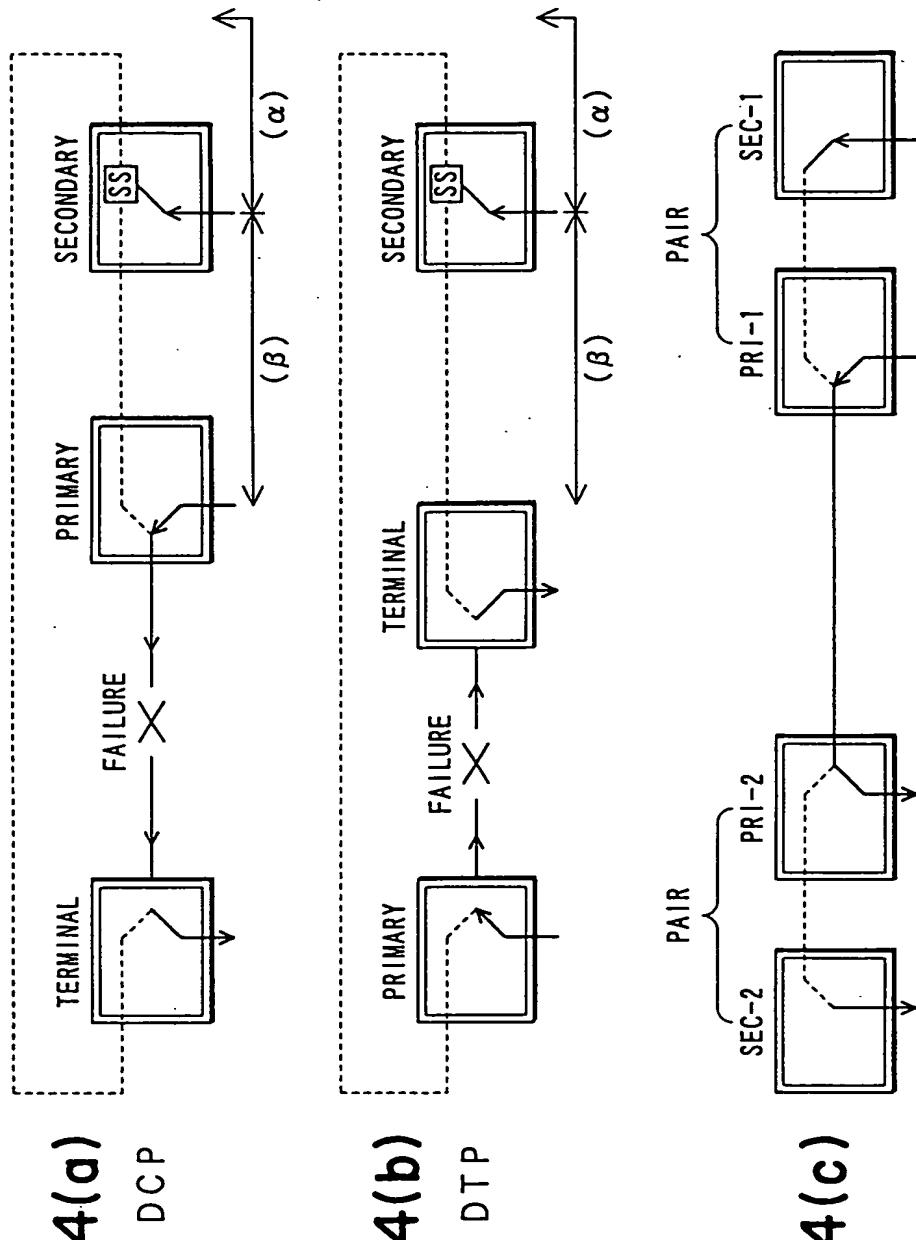
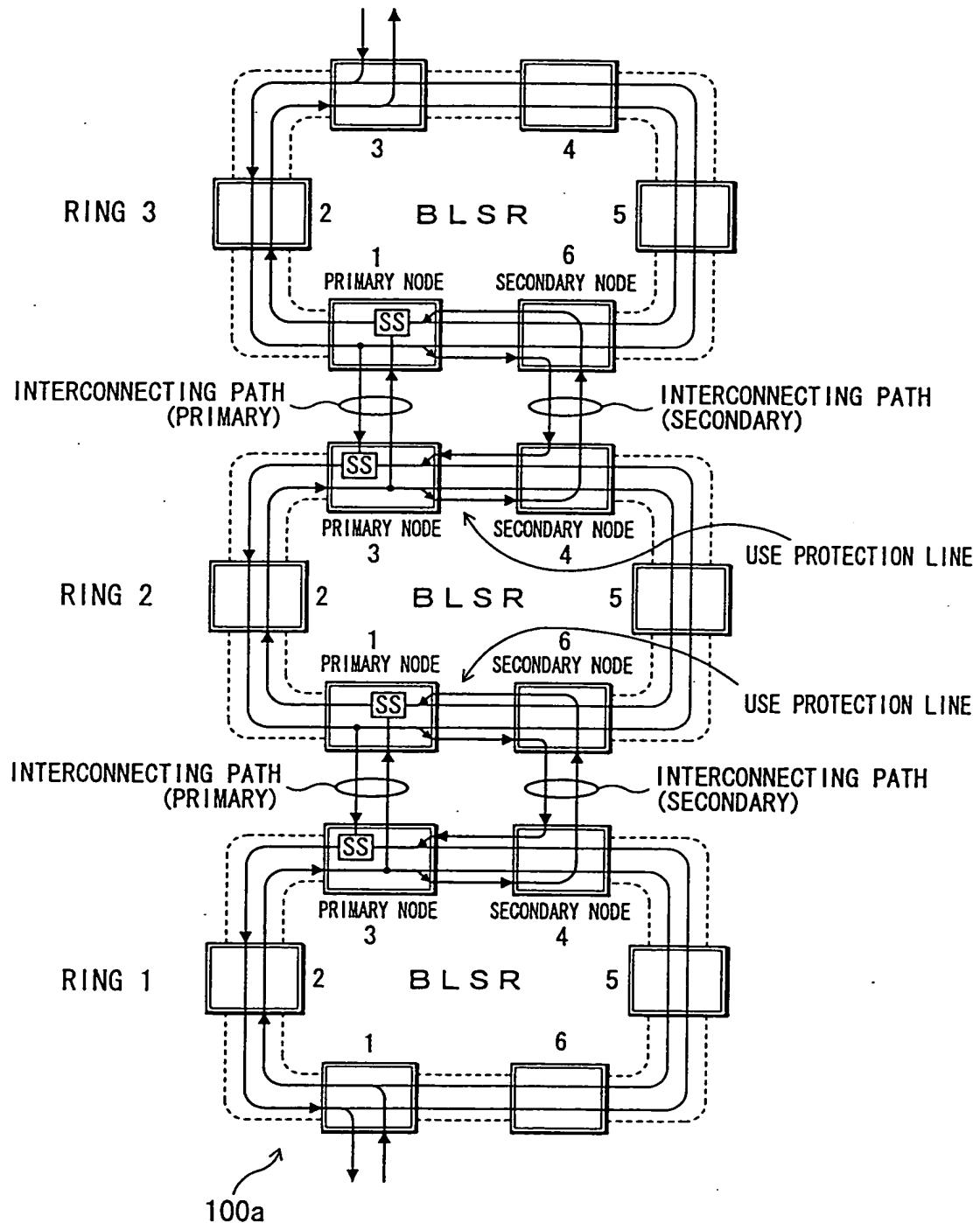


FIG. 25

DCP-DCP (DOUBLE-SIDED DCP) STRUCTURE



001207-ET956960

FIG. 26(a)
NORMAL OPERATION

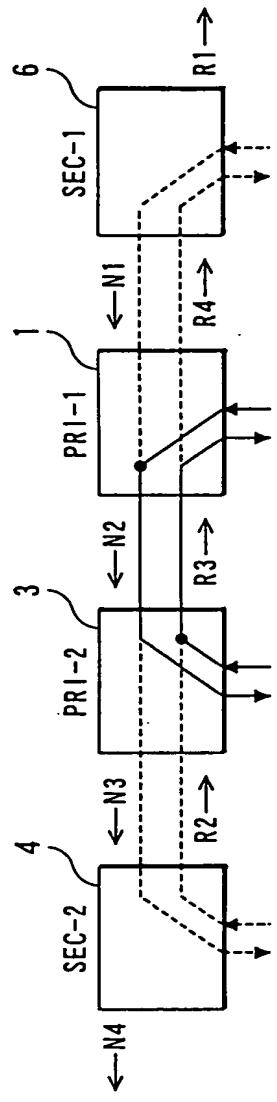


FIG. 26(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

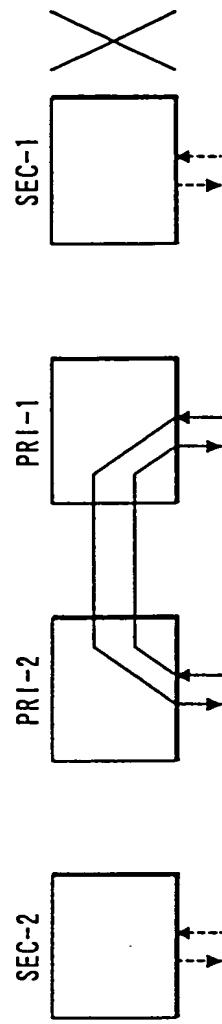


FIG. 26(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

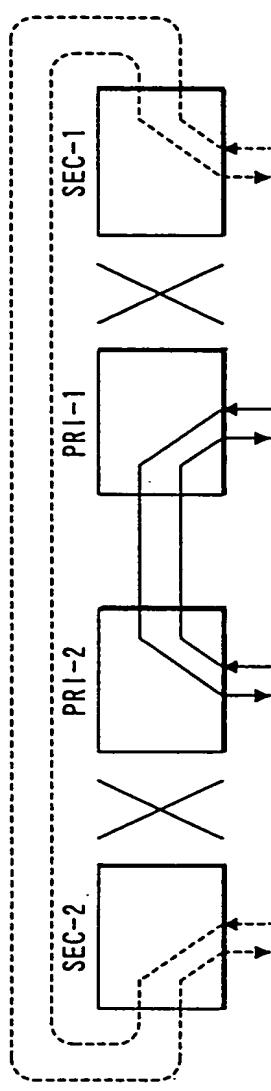
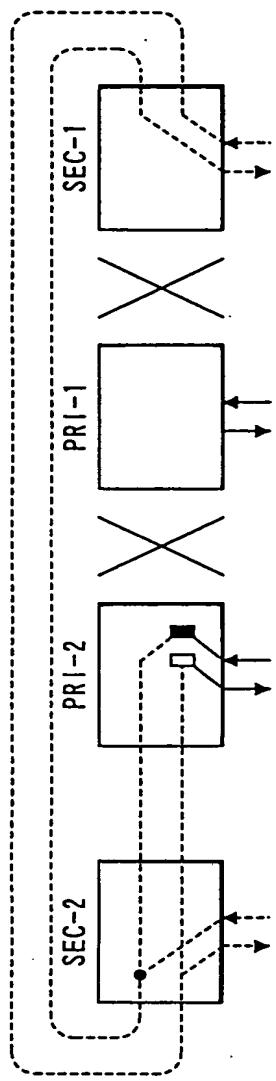
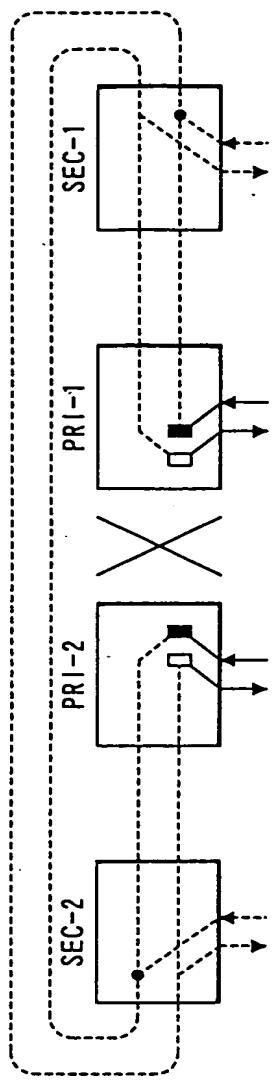


FIG. 27(a)



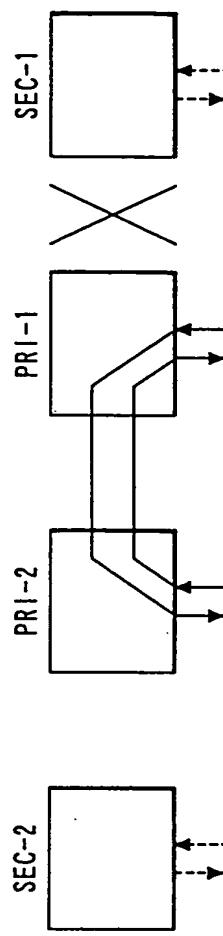
FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

FIG. 27(b)



FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

FIG. 27(c)



FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

FIG. 28

DCP-DCW STRUCTURE

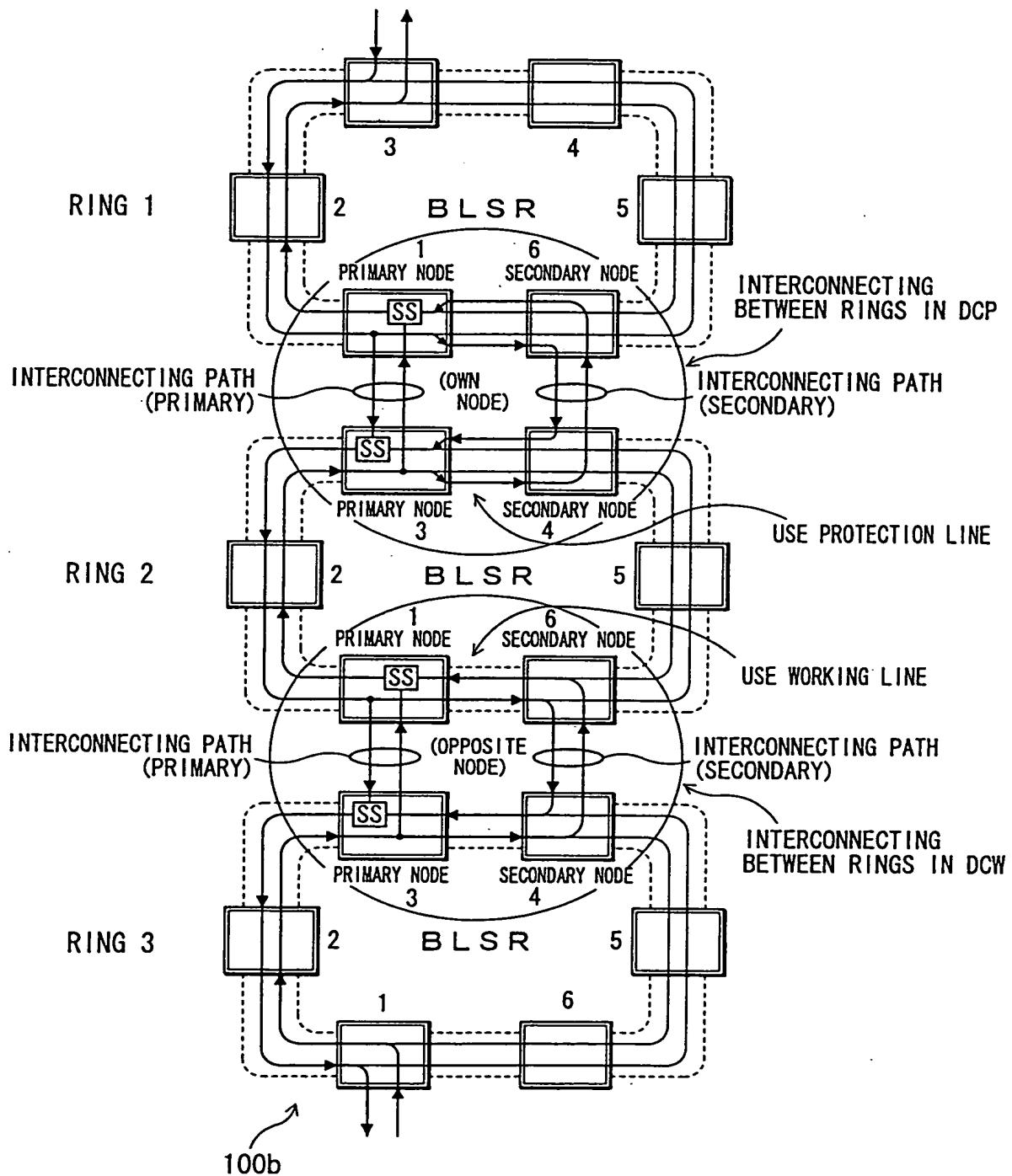


FIG. 29(a)
NORMAL OPERATION

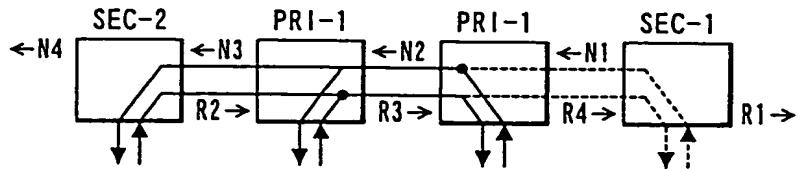


FIG. 29(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

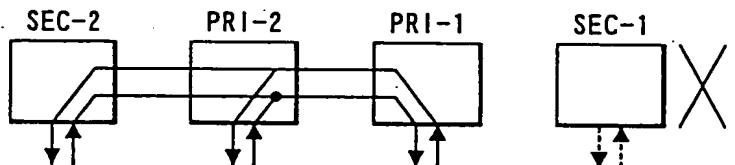


FIG. 29(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

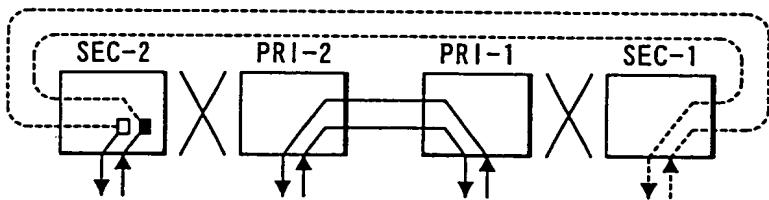


FIG. 29(d)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R2
FAILURE POSITION LOOKED
FROM PRI-1 N2-R2

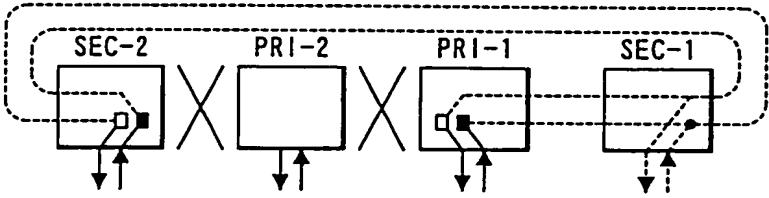


FIG. 29(e)

FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

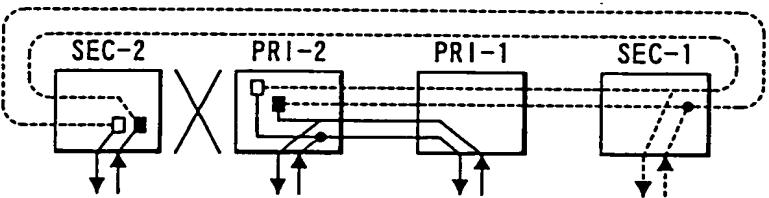


FIG. 30(a)

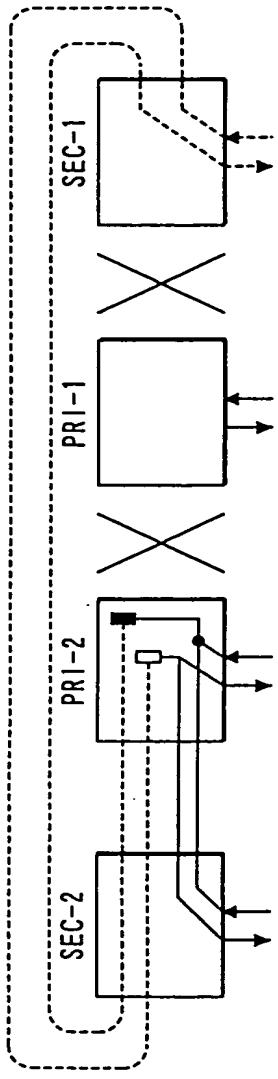


FIG. 30(b)

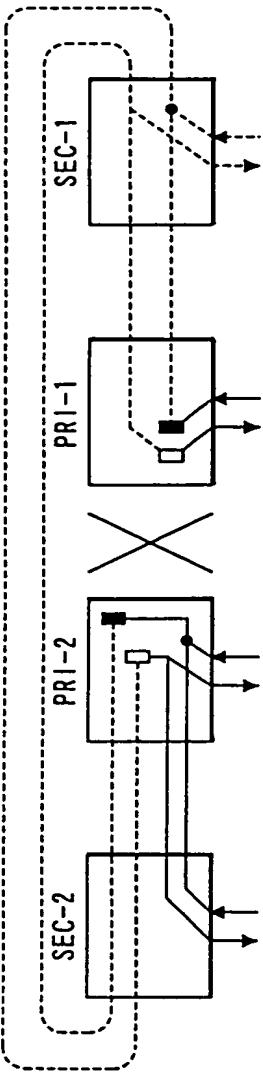
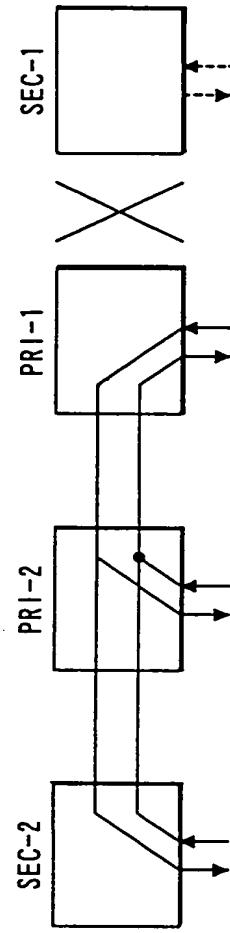


FIG. 30(c)



00042007-200906260

FIG. 31(a) NORMAL OPERATION

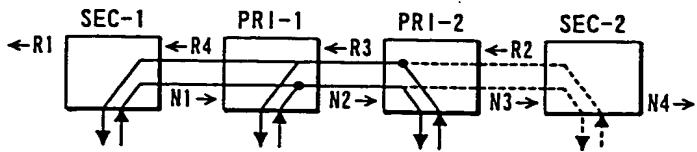


FIG. 31(b)
FAILURE POSITION LOOKED
FROM SEC-1 N1-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R4

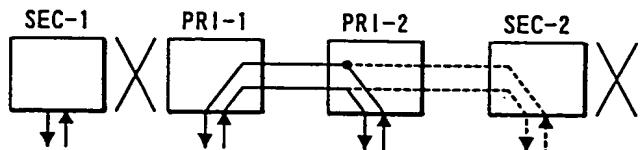


FIG. 31(c)
FAILURE POSITION LOOKED
FROM SEC-1 N2-R1
FAILURE POSITION LOOKED
FROM PRI-1 N2-R1

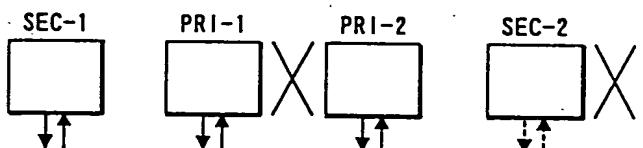


FIG. 31(d)
FAILURE POSITION LOOKED
FROM SEC-1 N3-R1
FAILURE POSITION LOOKED
FROM PRI-1 N3-R1

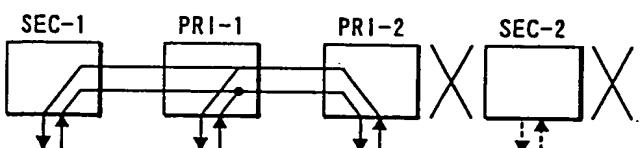


FIG. 31(e)
FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

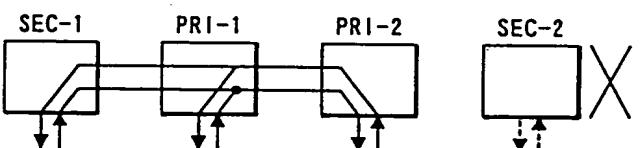


FIG. 31(f)
FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

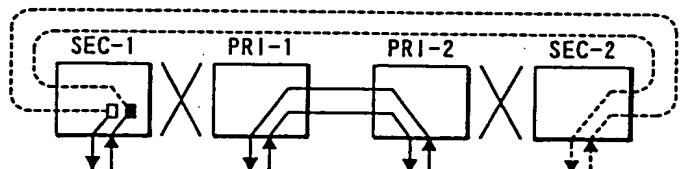


FIG. 31(g)
FAILURE POSITION LOOKED
FROM SEC-1 N2-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

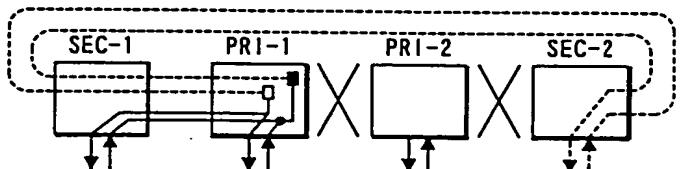


FIG. 31(h)
FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

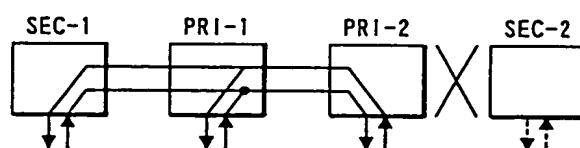


FIG. 32(a)

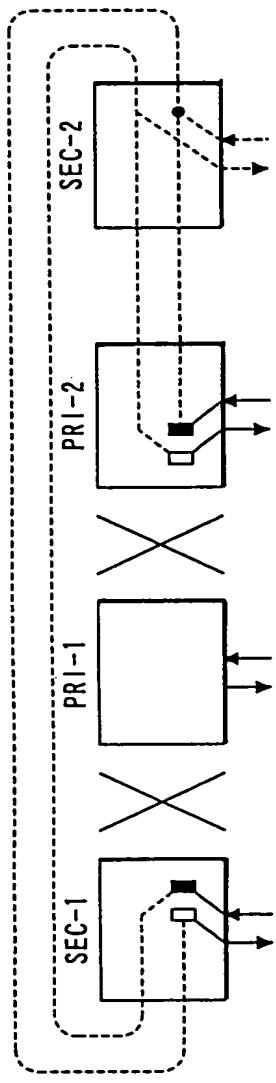


FIG. 32(b)

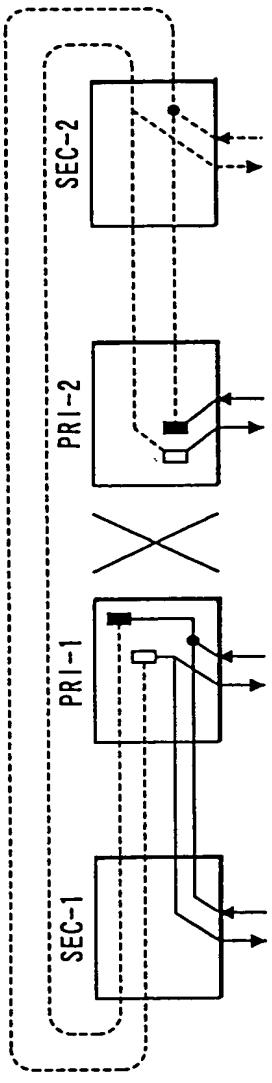


FIG. 32(c)

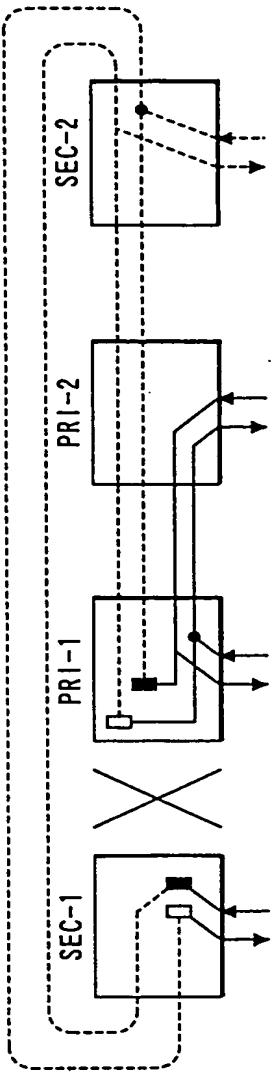
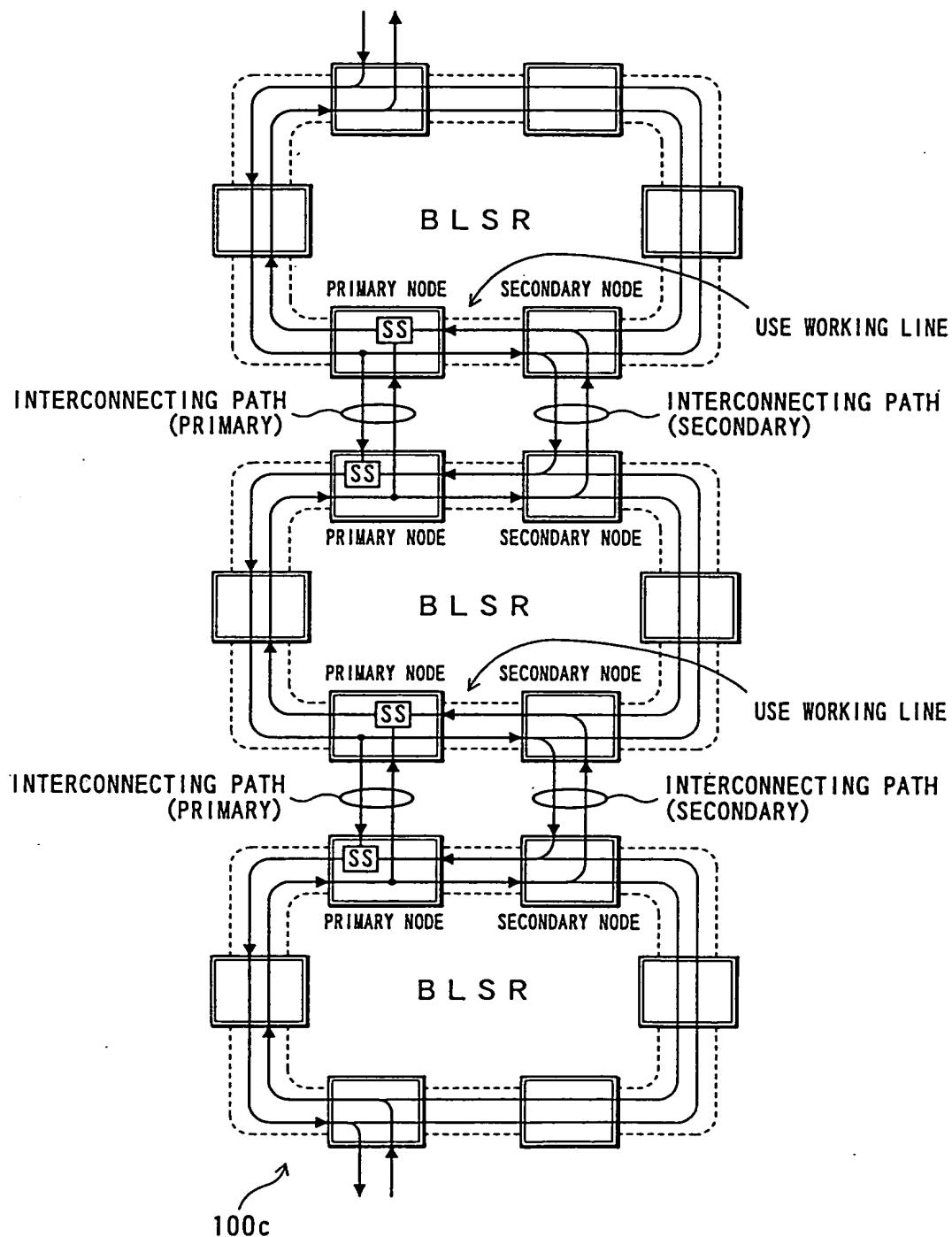


FIG. 33

DOUBLE-SIDED DCW STRUCTURE



000000000000000000000000

FIG. 34(a) NORMAL OPERATION

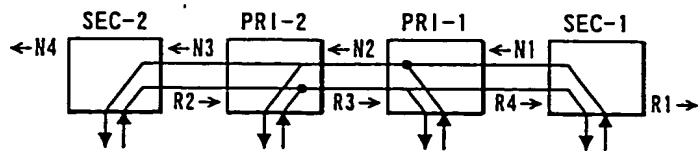


FIG. 34(b)
FAILURE POSITION LOOKED
FROM SEC-1 N1-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R4

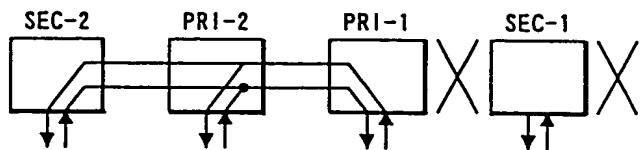


FIG. 34(c)
FAILURE POSITION LOOKED
FROM SEC-1 N2-R1
FAILURE POSITION LOOKED
FROM PRI-1 N2-R1

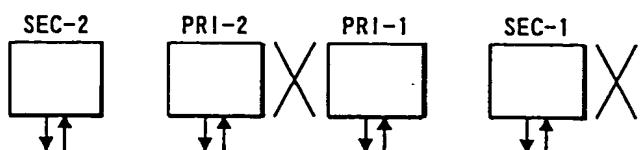


FIG. 34(d)
FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N3-R1

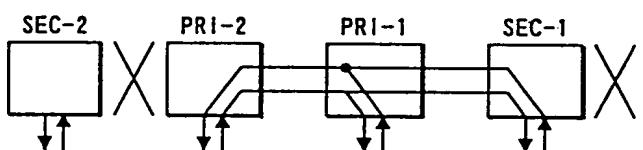


FIG. 34(e)
FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

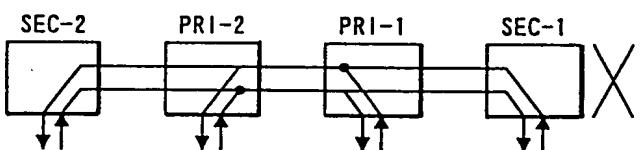


FIG. 34(f)
FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

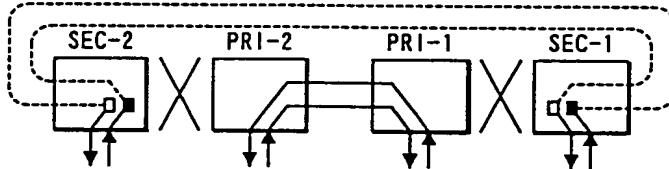


FIG. 34(g)
FAILURE POSITION LOOKED
FROM SEC-1 N2-R2
FAILURE POSITION LOOKED
FROM PRI-1 N2-R2

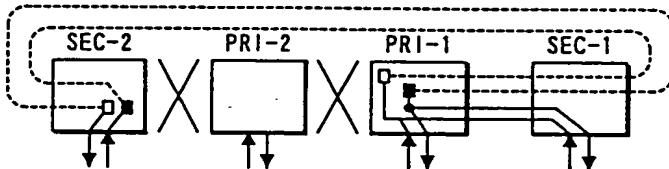


FIG. 34(h)
FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

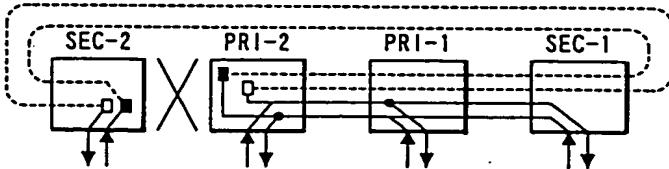


FIG. 35(a)

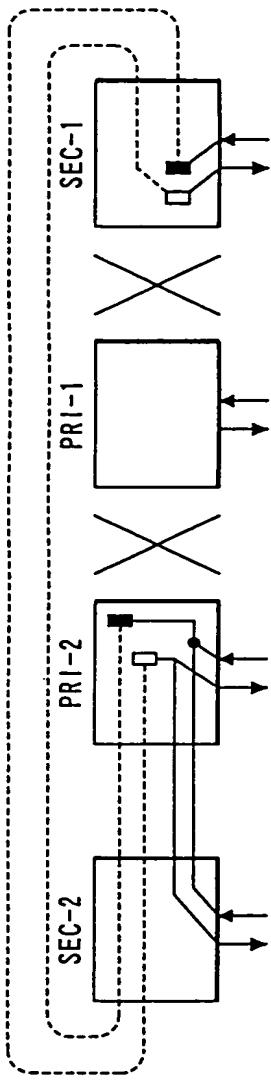


FIG. 35(b)

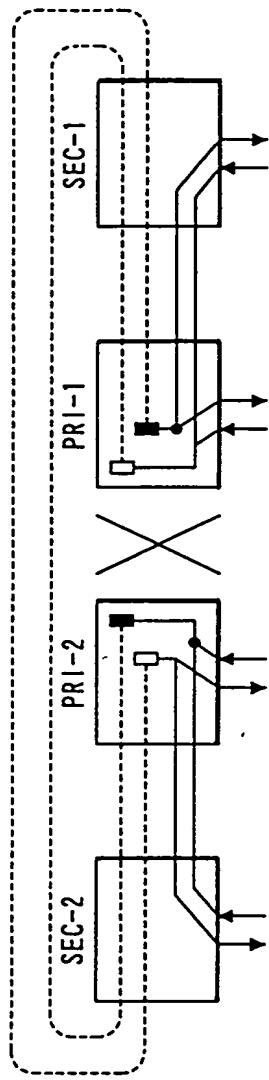


FIG. 35(c)

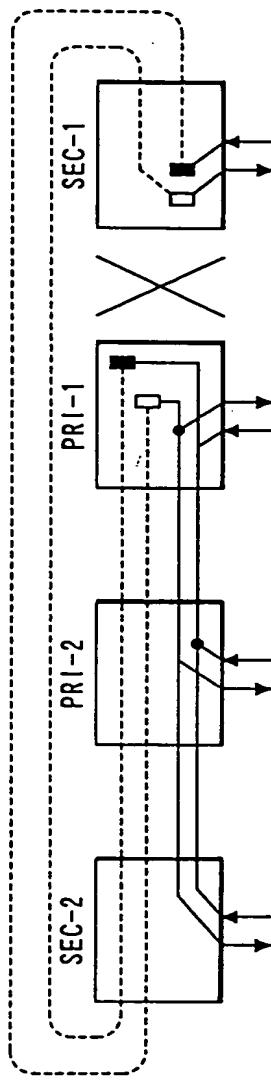
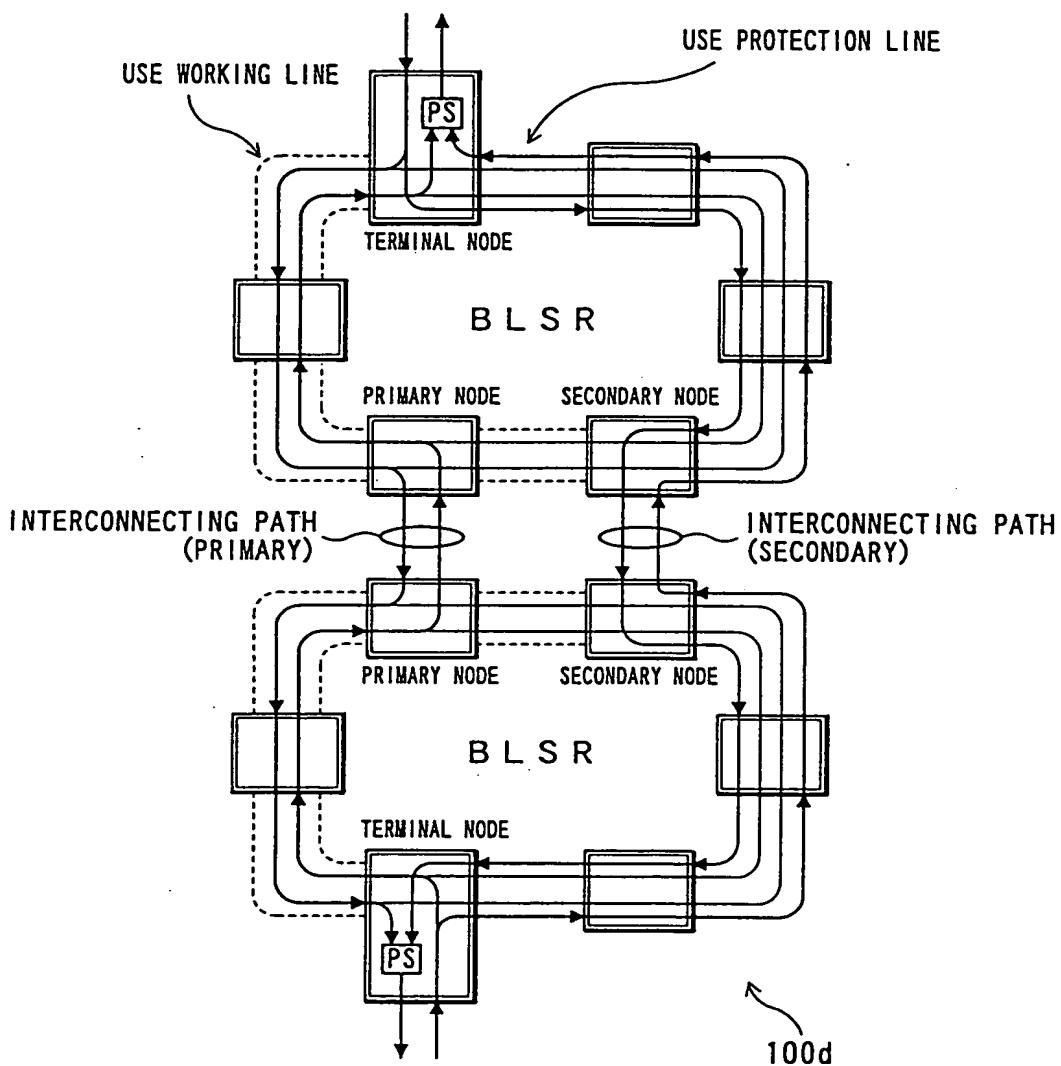


FIG. 36

DTP STRUCTURE



FAILURE OPERATION PATTERNS IN DTP (NORMAL BLSR)

FIG. 37(a)

NORMAL OPERATION

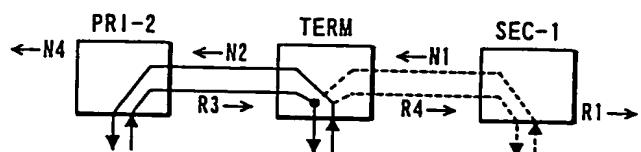


FIG. 37(b)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R1
FAILURE POSITION LOOKED
FROM TERM N2-R1

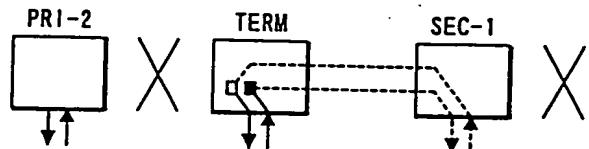


FIG. 37(c)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM TERM N2-R3

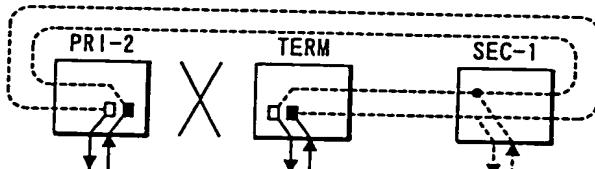


FIG. 37(d)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM TERM N1-R4

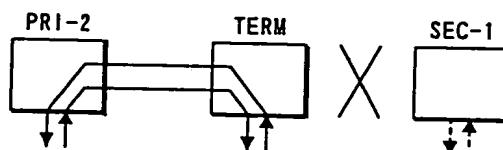


FIG. 37(e)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM TERM N4-R1

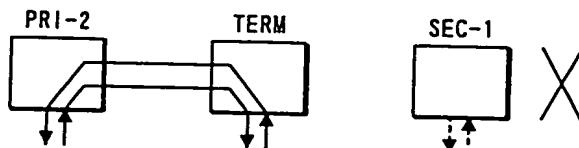


FIG. 38

SINGLE-SIDED DCP STRUCTURE

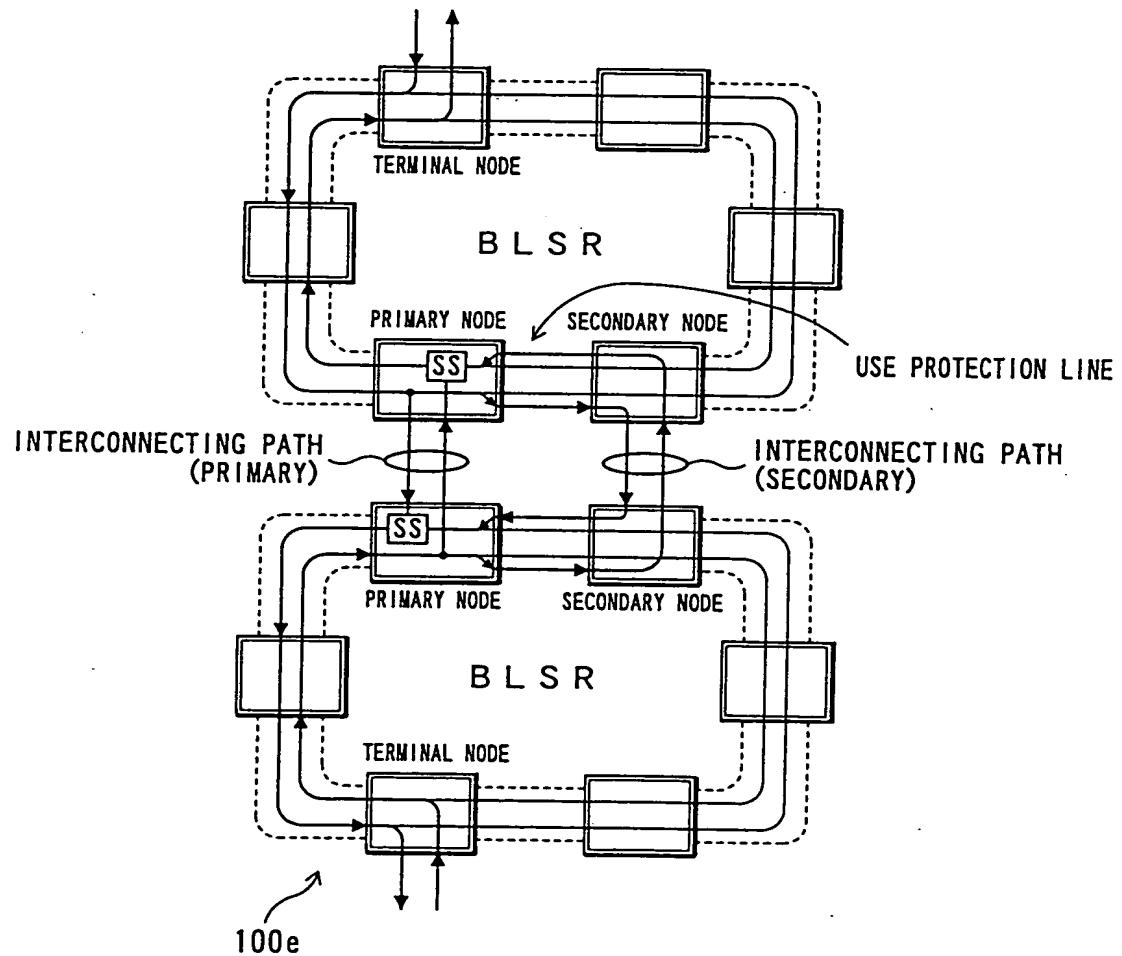


FIG. 39(a)

NORMAL OPERATION

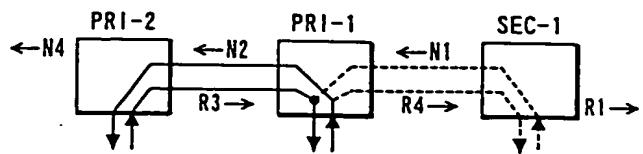


FIG. 39(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

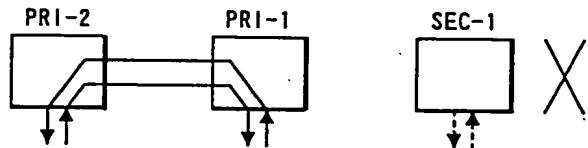


FIG. 39(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

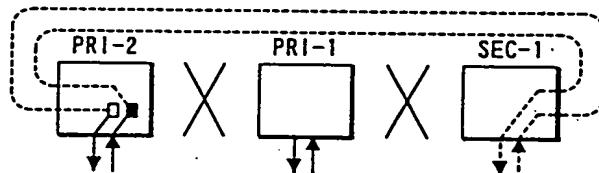


FIG. 39(d)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

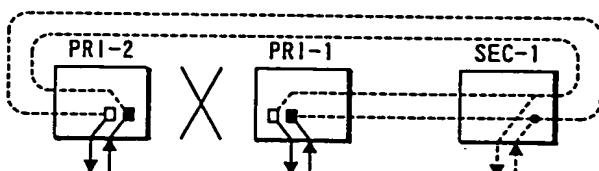


FIG. 39(e)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

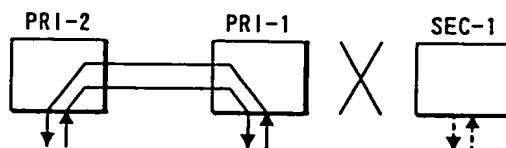


FIG. 40

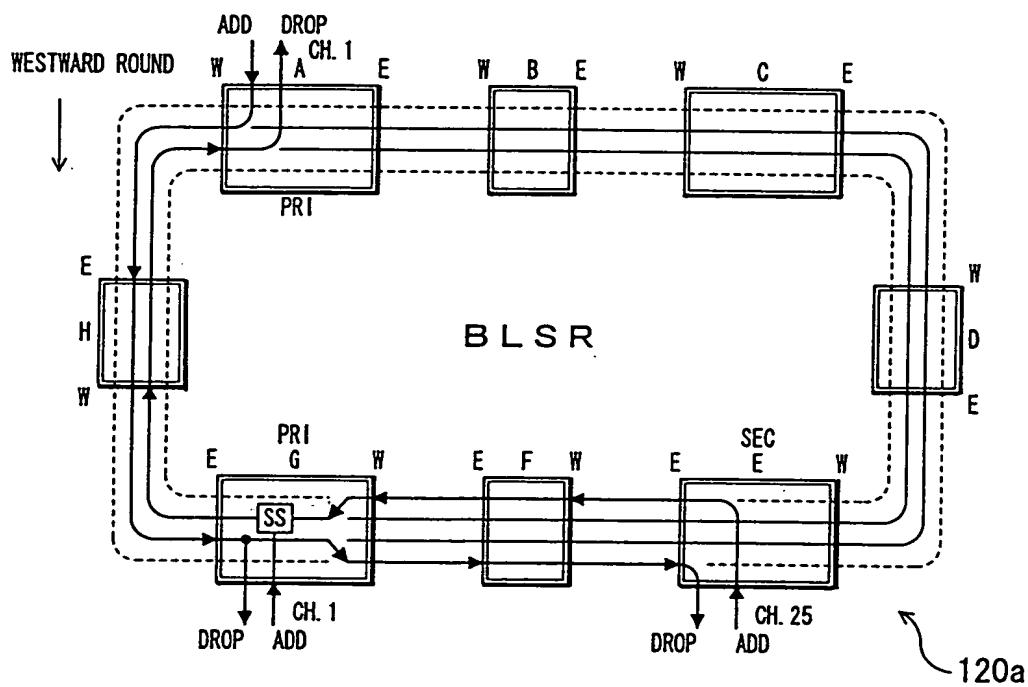
SINGLE-SIDED DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
E END;W END	E END;W END		
DROP	DC-WK;DC-PT	ADD	
ADD	DC-WK;DC-PT	DROP	

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
S-E;P-E;P-W;S-W	S-E;P-E;P-W;S-W		
DROP	A A G E	ADD	
ADD	A A G E	DROP	



120a

NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
E END;W END	E END;W END		
DROP	DC-WK;DC-PT	ADD	
ADD	DC-WK;DC-PT	DROP	

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
E END;W END	E END;W END		
DROP	DC-WK;DC-PT	ADD	
ADD	DC-WK;DC-PT	DROP	

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
S-E;P-E;P-W;S-W	S-E;P-E;P-W;S-W		
DROP	A A G E	ADD	
ADD	A A G E	DROP	

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
S-E;P-E;P-W;S-W	S-E;P-E;P-W;S-W		
DROP	A A G E	ADD	
ADD	A A G E	DROP	

FIG. 41

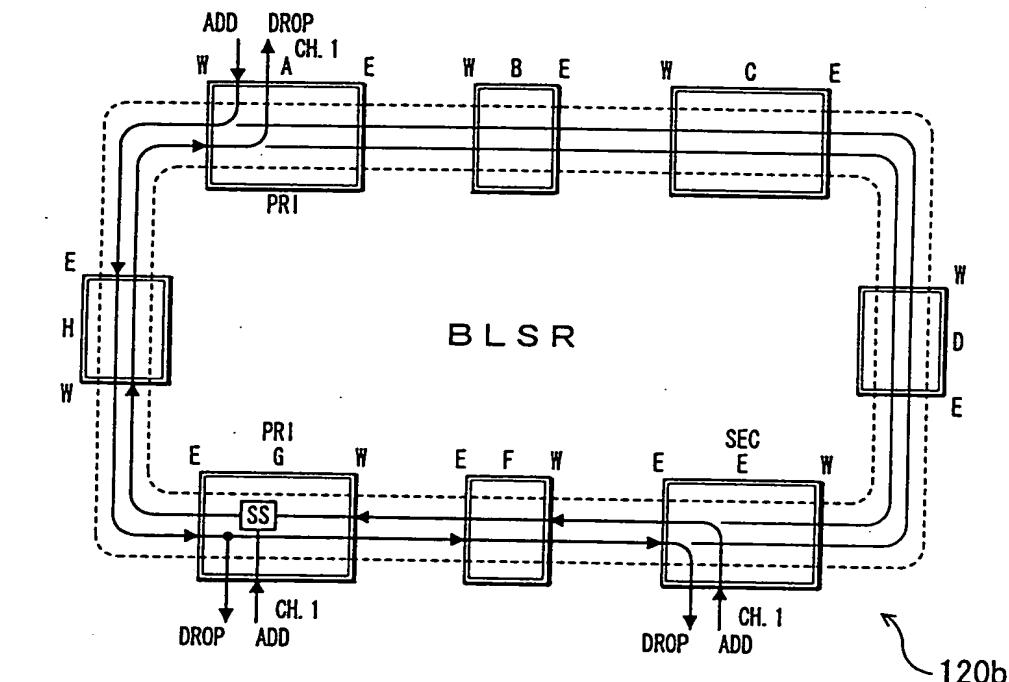
SINGLE-SIDED DCW STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-WK; DC-WK	ADD	

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	A A G E	ADD	



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-WK; DC-WK	ADD	

NETWORK STRUCTURE[E] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-WK; DC-WK	ADD	

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	A A G E	ADD	

PATH CONNECTION TABLE[E] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	A A G E	ADD	

FIG. 42

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT; DC-PT	ADD	

PATH CONNECTION TABLE[A] CH. 1

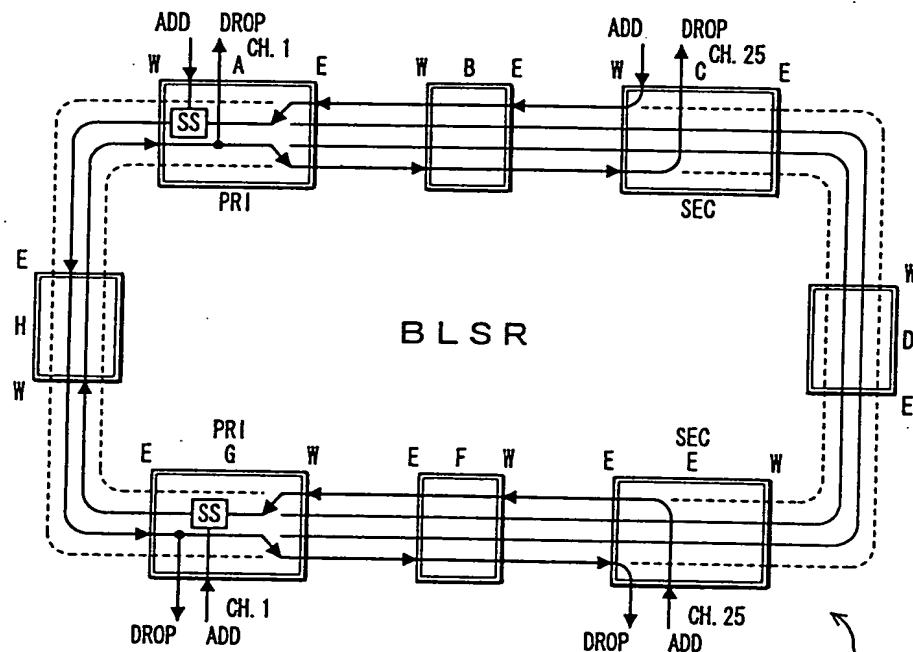
	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

NETWORK STRUCTURE[G] CH. 25

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT; DC-PT	ADD	

PATH CONNECTION TABLE[C] CH. 25

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT; DC-PT	ADD	

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT; DC-PT	ADD	

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

FIG. 43

DCP-DCW STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-WK; DC-PT	ADD
ADD		DC-WK; DC-PT	DROP

NETWORK STRUCTURE[C] CH. 1

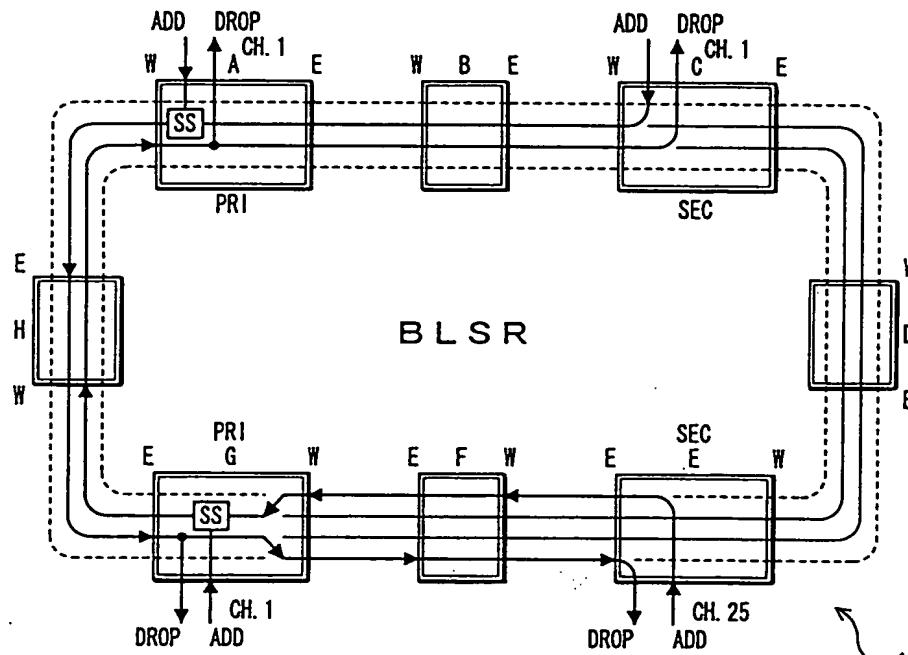
	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-WK; DC-PT	ADD
ADD		DC-WK; DC-PT	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP

PATH CONNECTION TABLE[C] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP



120d

NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-WK; DC-PT		ADD
ADD	DC-WK; DC-PT		DROP

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-WK; DC-PT		ADD
ADD	DC-WK; DC-PT		DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP

FIG. 44

DCW-DCW STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-WK	DC-WK ADD
ADD		DC-WK	DC-WK DROP

PATH CONNECTION TABLE[A] CH. 1

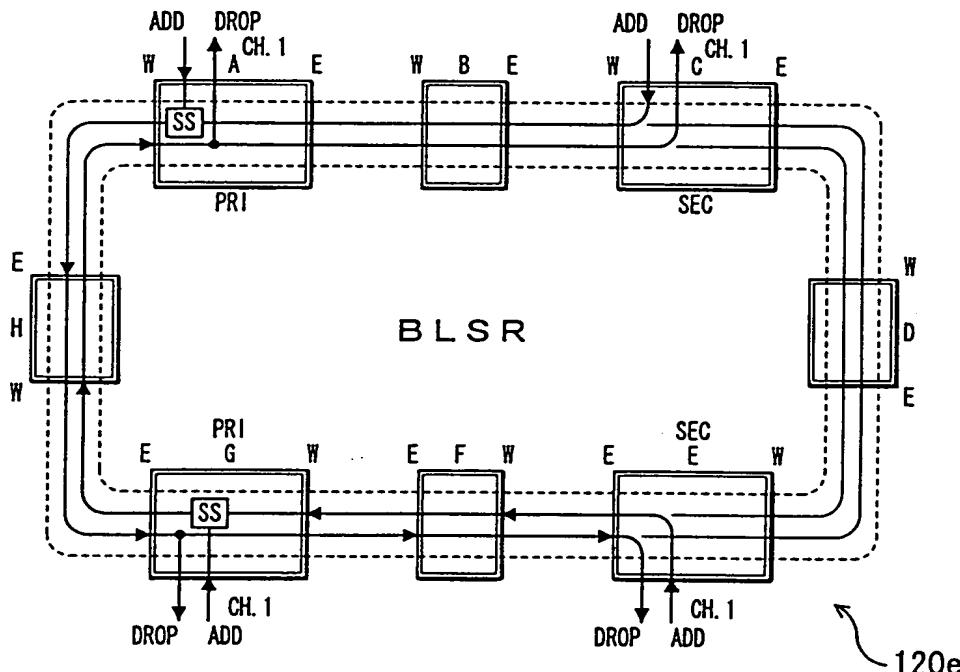
	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP

NETWORK STRUCTURE[C] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-WK	DC-WK ADD
ADD		DC-WK	DC-WK DROP

PATH CONNECTION TABLE[C] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP		C A G E	ADD
ADD		C A G E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-WK	DC-WK	ADD
ADD	DC-WK	DC-WK	DROP

NETWORK STRUCTURE[E] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-WK	DC-WK	ADD
ADD	DC-WK	DC-WK	DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP

PATH CONNECTION TABLE[E] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E		ADD
ADD	C A G E		DROP

FIG. 45

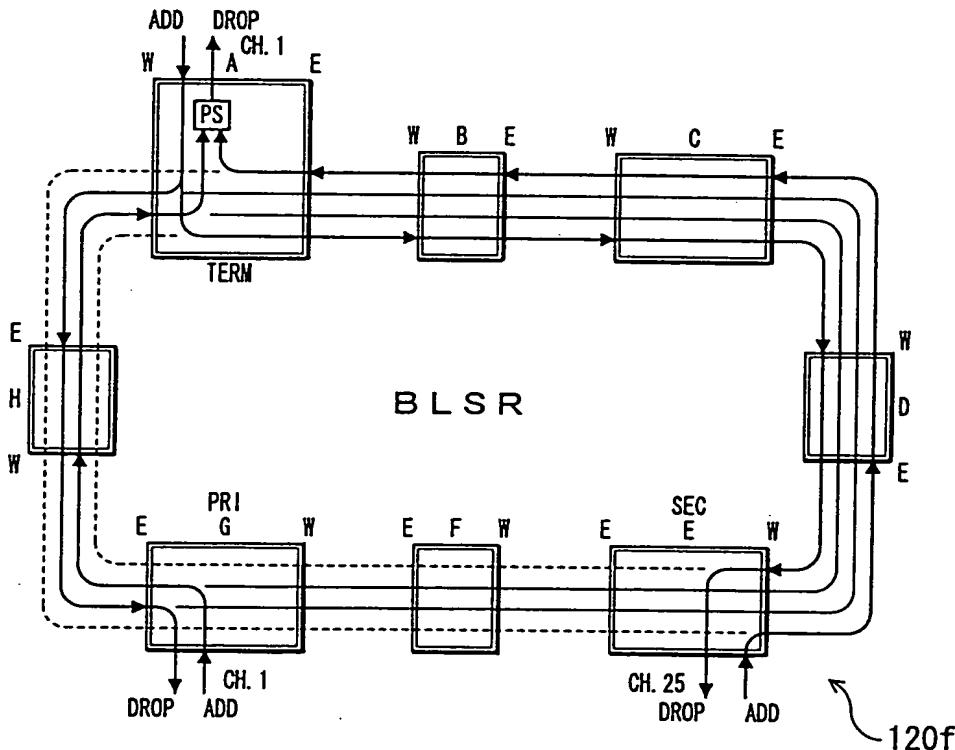
DTP STRUCTURE

NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END	W END	E END
ADD			W END

PATH CONNECTION TABLE[A] CH. 1

	EAST								
DROP	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
ADD			E	A	G	G	ADD		



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END	W END	E END
ADD	DT-PT	DT-WK	

PATH CONNECTION TABLE[G] CH. 1

	EAST								
DROP	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
ADD	E	A	G	G			ADD		

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
DROP	E END	W END	E END
ADD	DT-PT	DT-WK	ADD

PATH CONNECTION TABLE[E] CH. 25

	EAST								
DROP	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
ADD			E	A	G	G	ADD		

FIG. 46

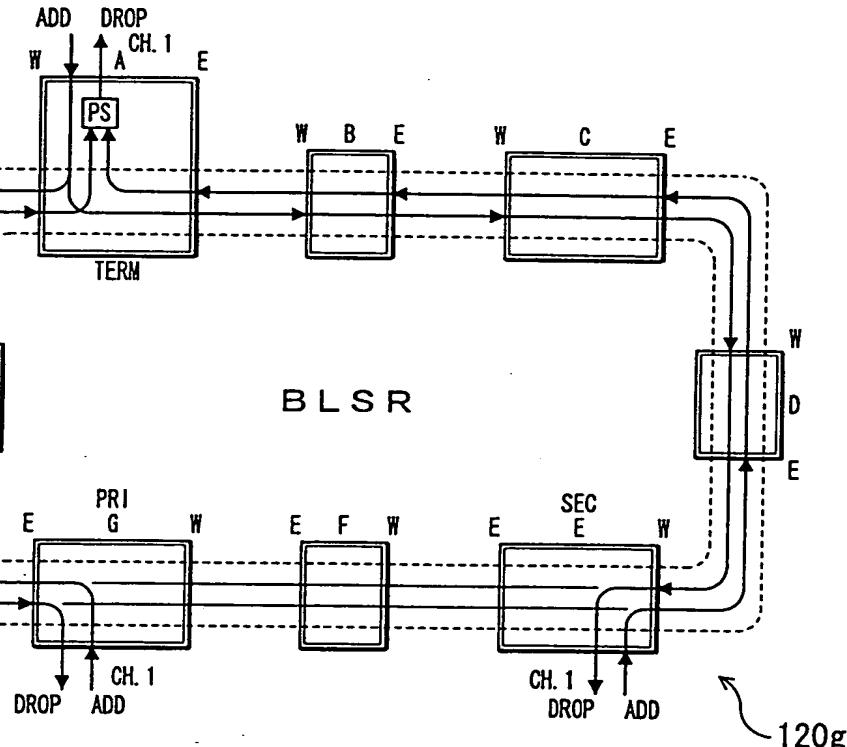
DTW STRUCTURE

NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DT-HK	DT-HK	ADD

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	E A G G	E A G G	ADD



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DT-HK	DT-HK	ADD

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	E A G G	E A G G	ADD

NETWORK STRUCTURE[E] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DT-HK	DT-HK	ADD

PATH CONNECTION TABLE[E] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	E A G G	E A G G	ADD

FIG. 47

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT	DC-PT	ADD

NETWORK STRUCTURE[C] CH. 25

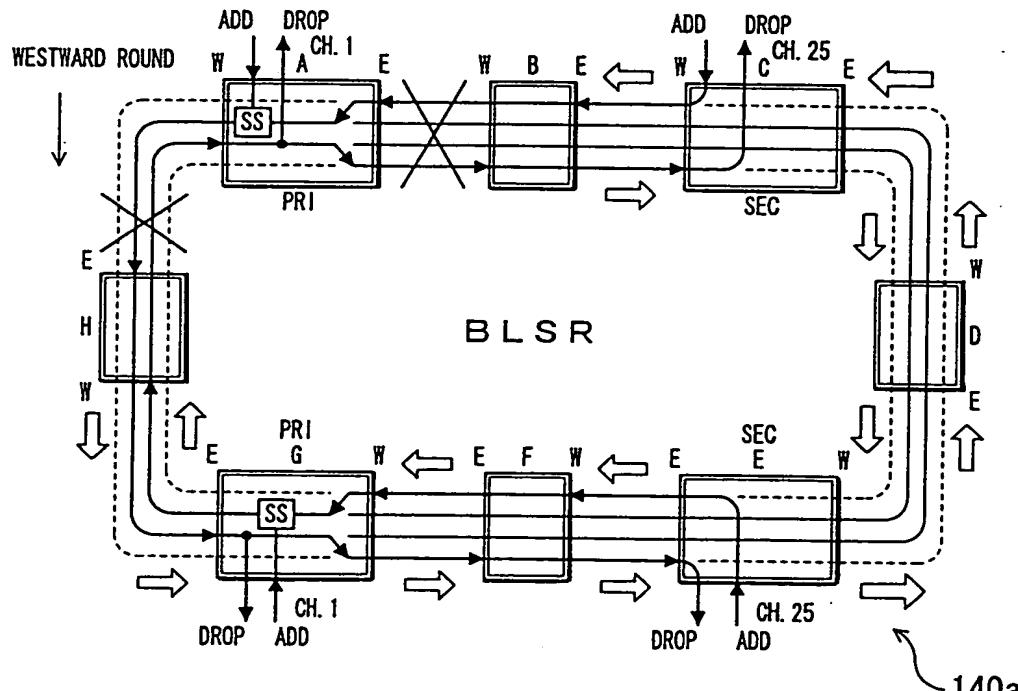
	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT	DC-PT	ADD

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

PATH CONNECTION TABLE[C] CH. 25

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	



140a

NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT	DC-PT	ADD

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
DROP	E END; W END	E END; W END	
ADD	DC-PT	DC-PT	ADD

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
DROP	S-E; P-E; P-W; S-W	S-E; P-E; P-W; S-W	
ADD	C A G E	ADD	

FIG. 48

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-PT	DC-PT ADD
ADD		DC-PT	DC-PT DROP

NETWORK STRUCTURE[C] CH. 25

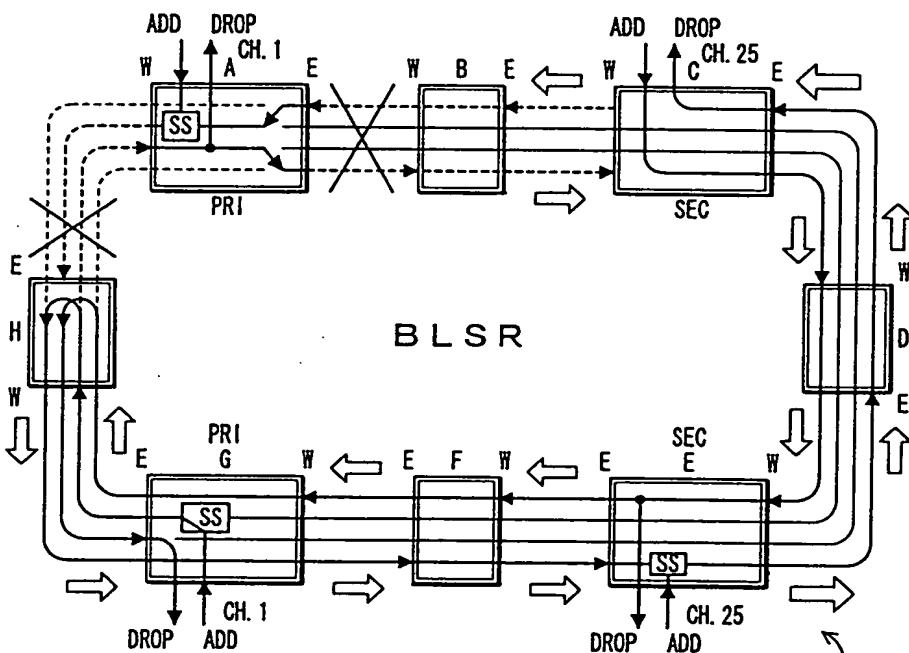
	EAST	WEST	
	E END; W END	E END; W END	
DROP		DC-PT	DC-PT ADD
ADD		DC-PT	DC-PT DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E	C A G E ADD	
ADD	C A G E	DROP	

PATH CONNECTION TABLE[C] CH. 25

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E	C A G E ADD	
ADD	C A G E	DROP	



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-PT; DC-PT		ADD
ADD	DC-PT; DC-PT		DROP

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST	
	E END; W END	E END; W END	
DROP	DC-PT; DC-PT		ADD
ADD	DC-PT; DC-PT		DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E	C A G E ADD	
ADD	C A G E	DROP	

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
	S-E P-E P-W S-W	S-E P-E P-W S-W	
DROP	C A G E	C A G E ADD	
ADD	C A G E	DROP	

NORMAL LOOP-BACK: NORMAL-BLSR

140b

FIG. 49(a)

NORMAL STATE

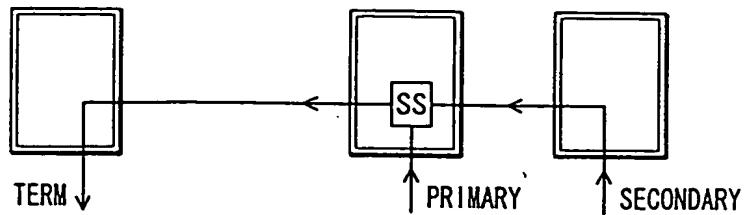


FIG. 49(b)

AT THE TIME OF FAILURE OCCURRENCE

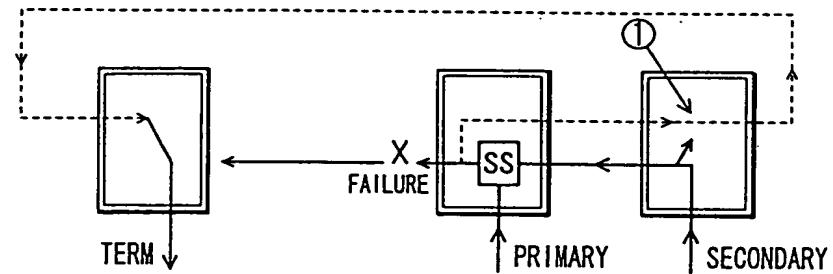


FIG. 49(c)

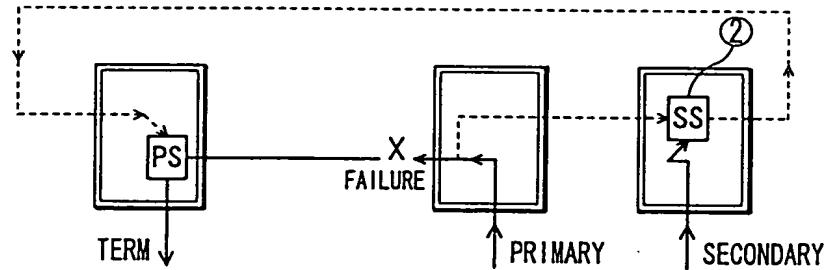


FIG. 49(d)

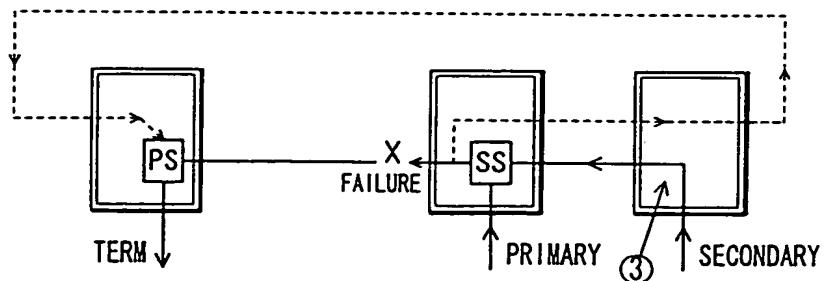


FIG. 50(a)

NORMAL STATE

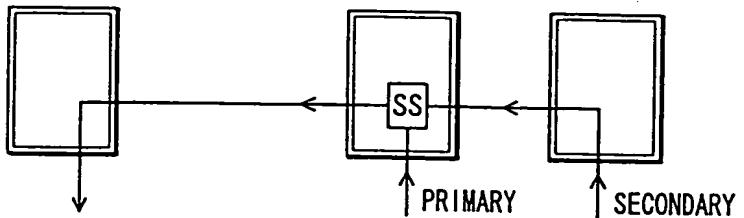


FIG. 50(b)

AT THE TIME OF FAILURE OCCURRENCE

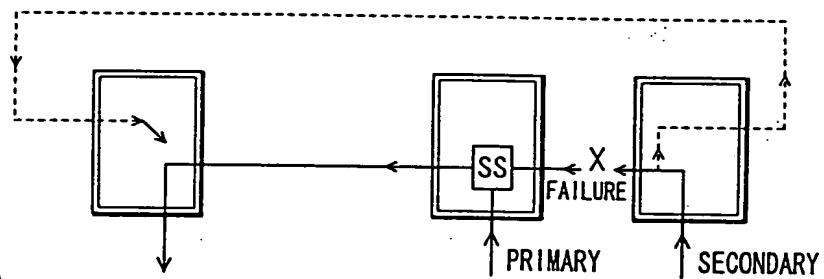
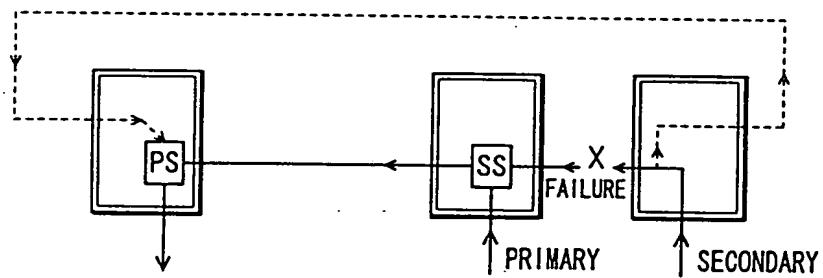


FIG. 50(c)

RESTORATION MEASURE



PATH SWITCH FUNCTION IS
NECESSARY HERE
(OPERATION AS A TERMINAL IN DTP)

FIG. 51(a)

NORMAL STATE

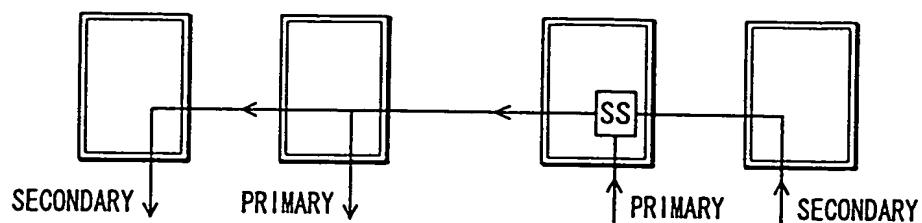


FIG. 51(b)

AT THE TIME OF FAILURE OCCURRENCE

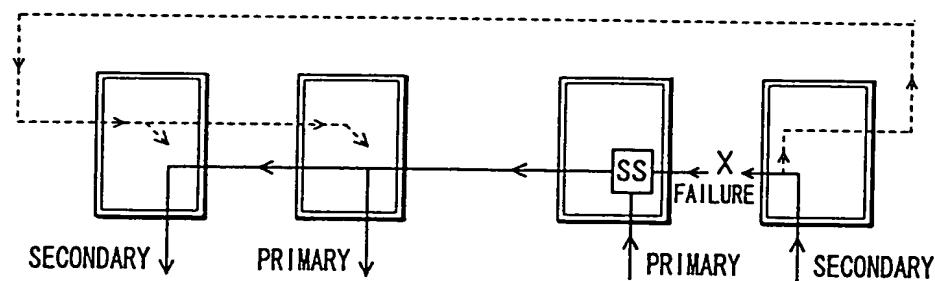


FIG. 51(c)

RESTORATION MEASURE

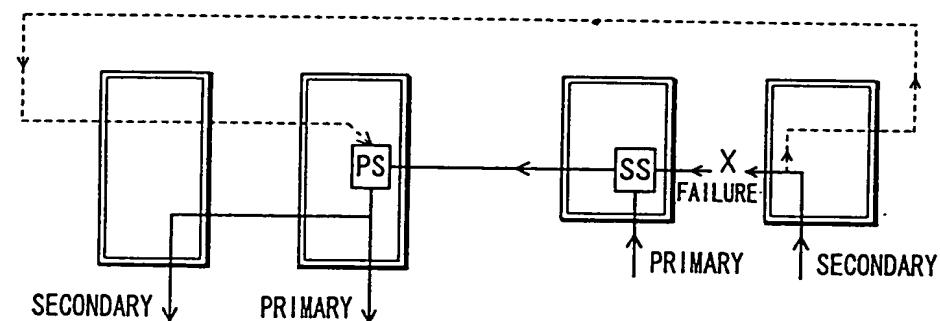


FIG. 52(a)
NORMAL OPERATION

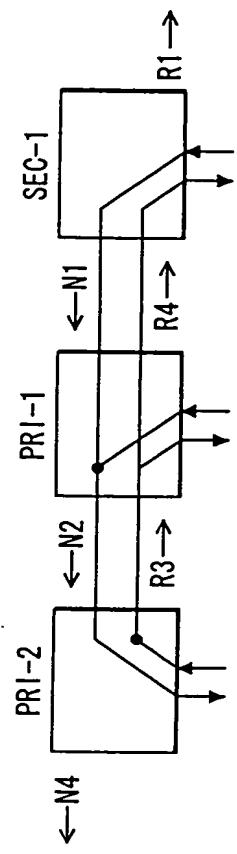
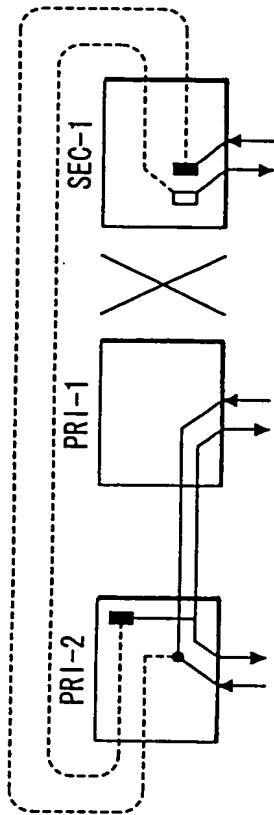


FIG. 52(b)



FAILURE POSITION LOOKED
FROM SEC-1 N1-B4

FROM SEC-1 N-4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

FIG. 53(a)

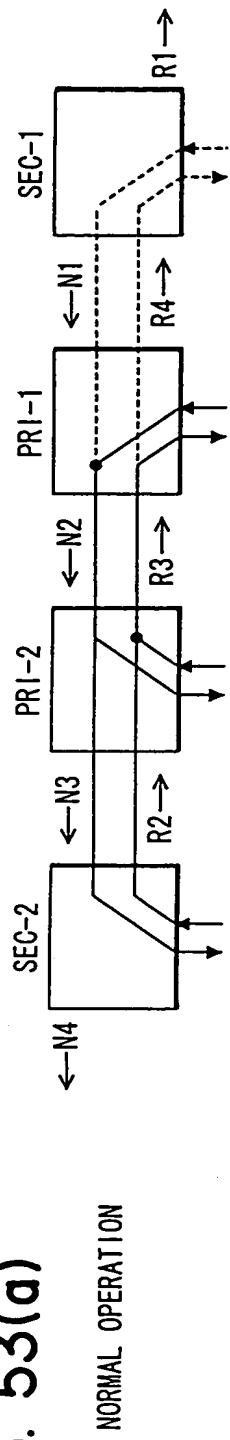


FIG. 53(b)

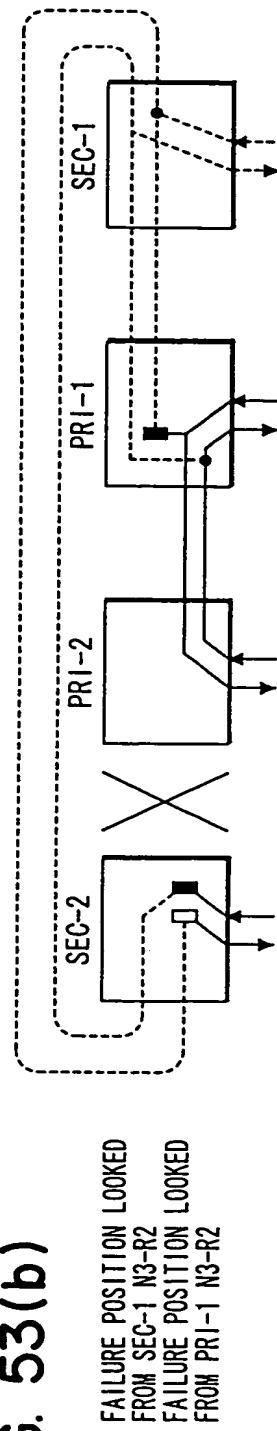


FIG. 54(a)

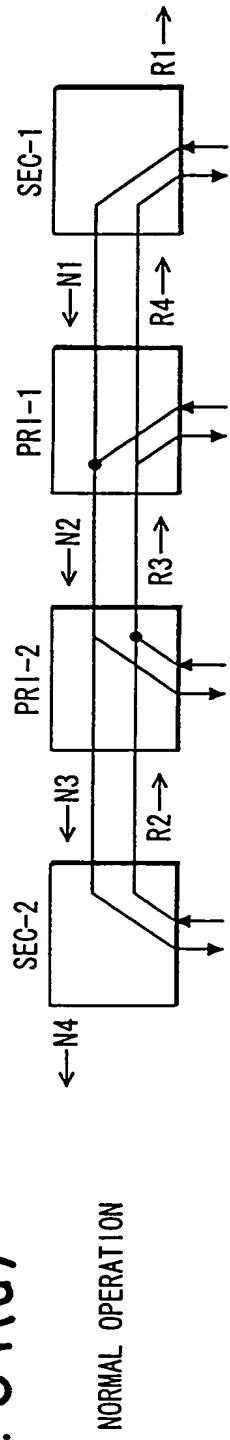


FIG. 54(b)

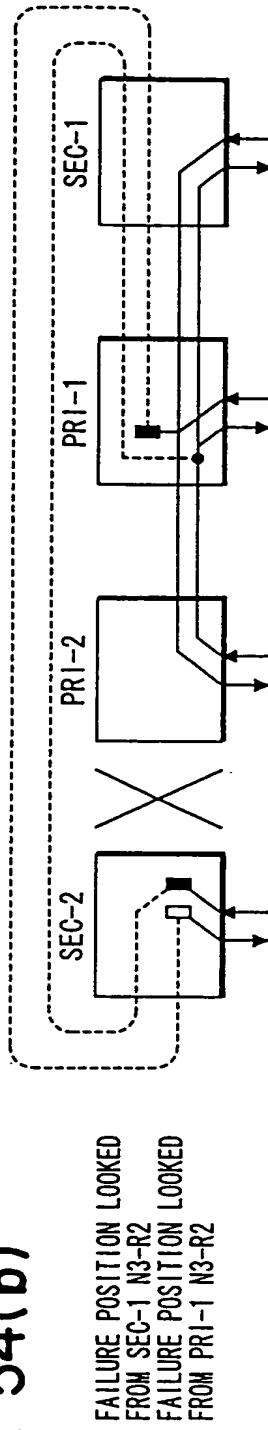


FIG. 55

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST	WEST		
E END	W END	E END	W END	
DROP		DC-PT	DC-PT	ADD
ADD		DC-PT	DC-PT	DROP

NETWORK STRUCTURE[C] CH. 25

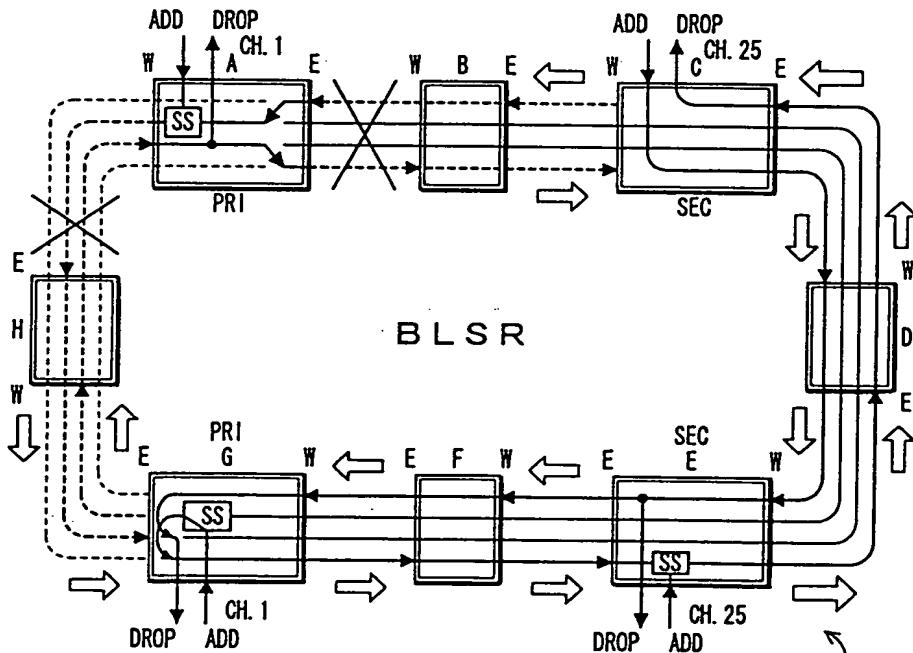
	EAST	WEST		
E END	W END	E END	W END	
DROP		DC-PT	DC-PT	ADD
ADD		DC-PT	DC-PT	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST	WEST	
S-E	P-E	P-W	S-W
DROP	C A G	E	ADD
ADD	C A G	E	DROP

PATH CONNECTION TABLE[C] CH. 25

	EAST	WEST	
S-E	P-E	P-W	S-W
DROP	C A G	E	ADD
ADD	C A G	E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST	WEST		
E END	W END	E END	W END	
DROP	DC-PT	DC-PT		ADD
ADD	DC-PT	DC-PT		DROP

NETWORK STRUCTURE[E] CH. 25

	EAST	WEST		
E END	W END	E END	W END	
DROP	DC-PT	DC-PT		ADD
ADD	DC-PT	DC-PT		DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST	WEST	
S-E	P-E	P-W	S-W
DROP	C A G	E	ADD
ADD	C A G	E	DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST	WEST	
S-E	P-E	P-W	S-W
DROP	C A G	E	ADD
ADD	C A G	E	DROP

FIG. 56

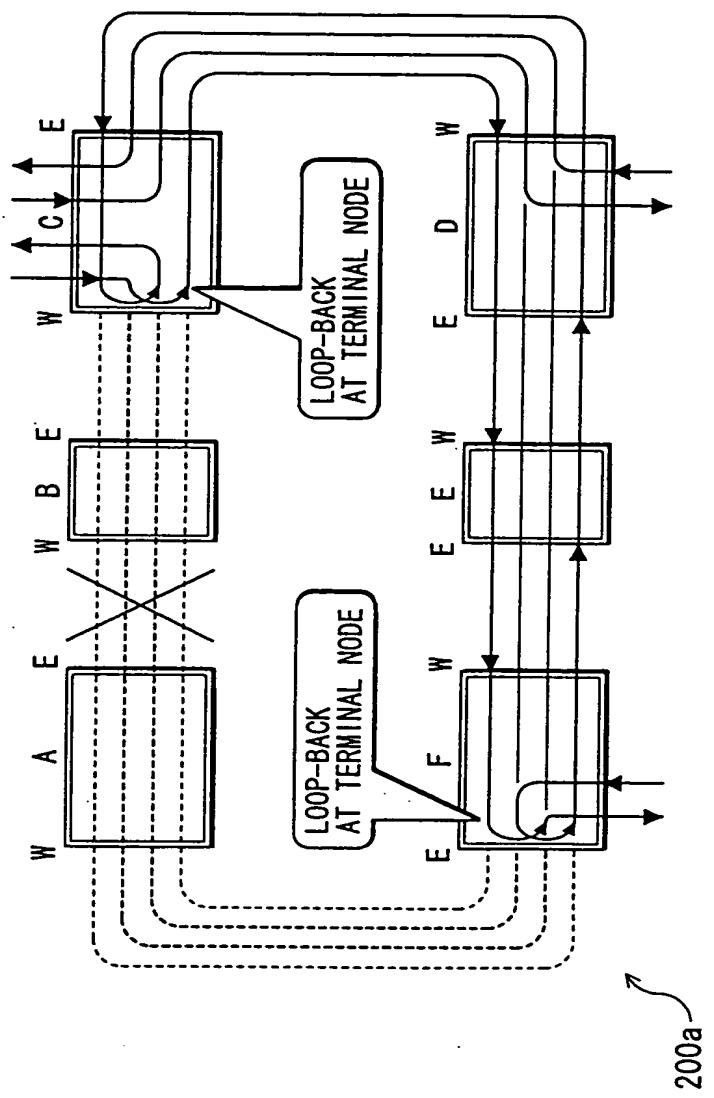
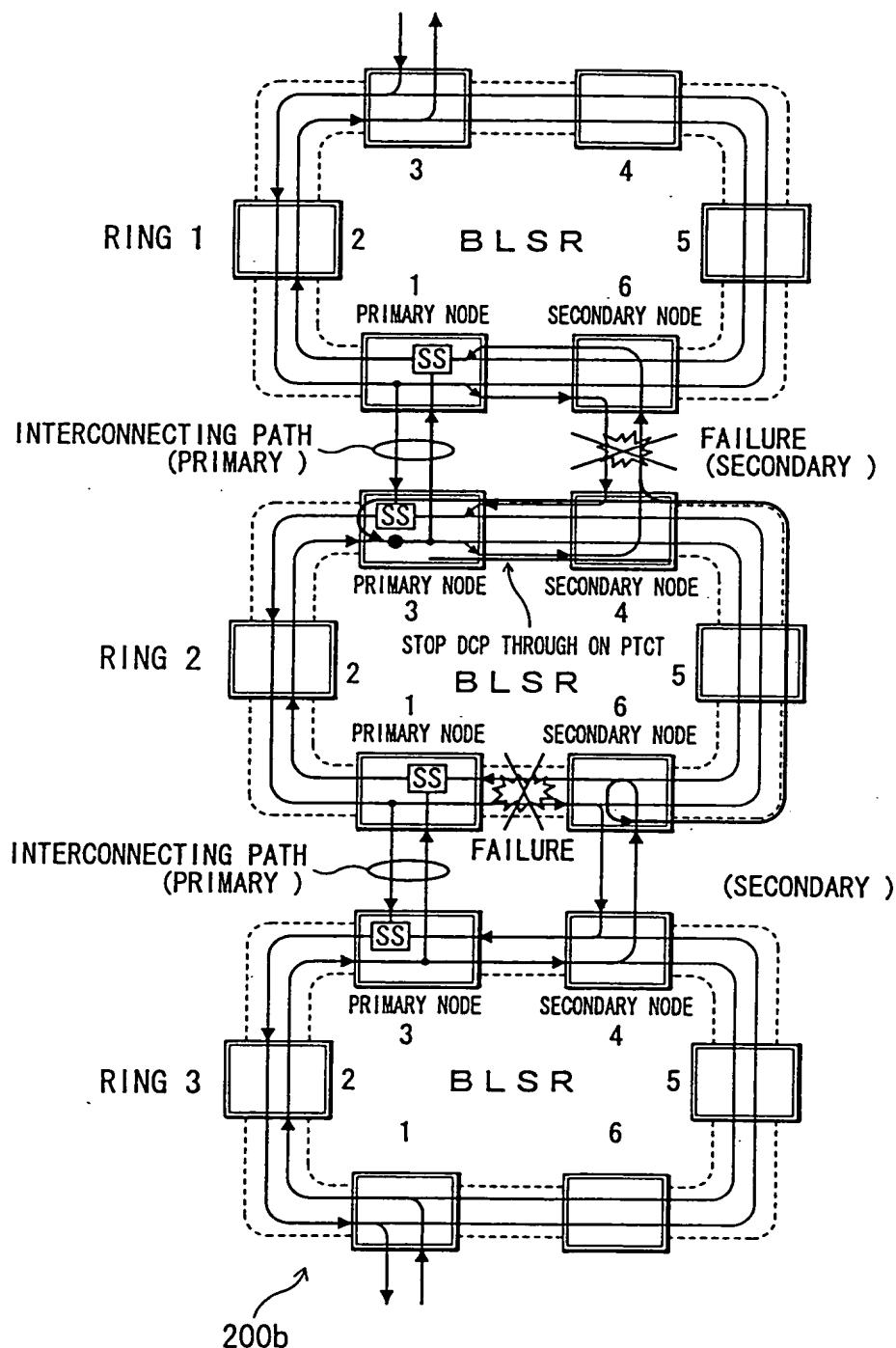


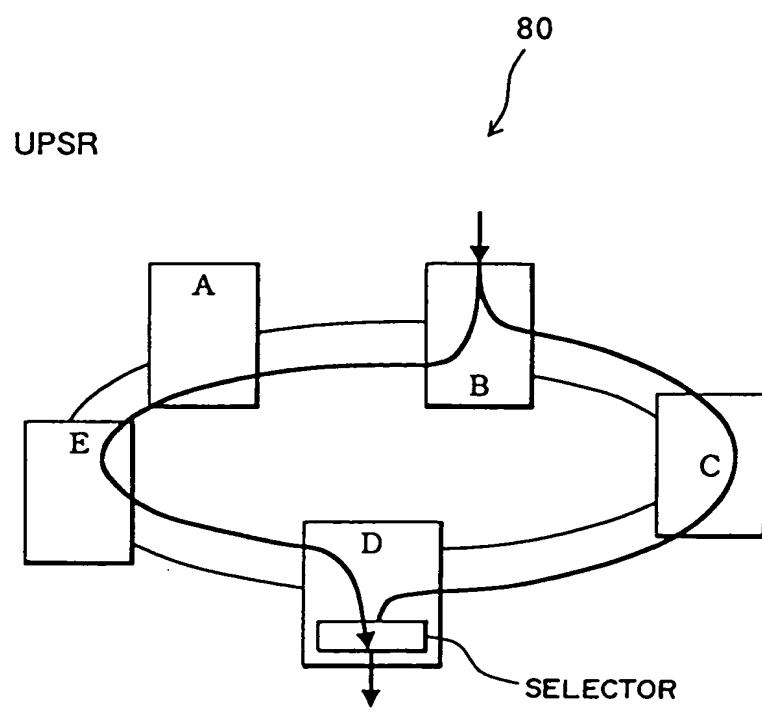
FIG. 57

DCP-DCW STRUCTURE



200b

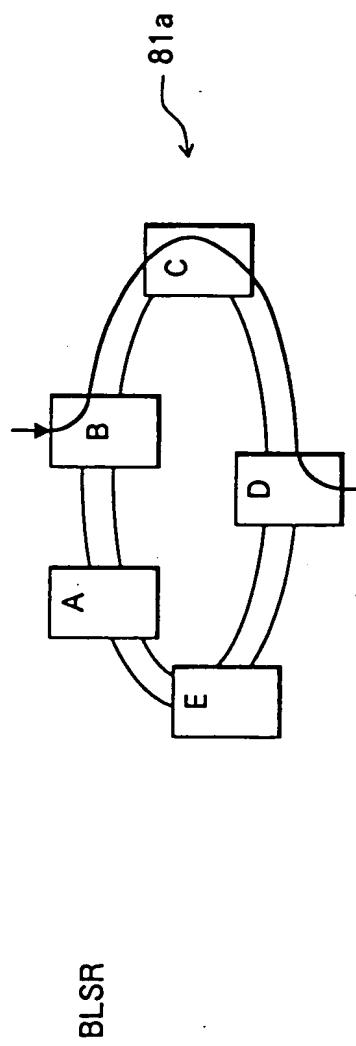
FIG. 58



00045613 - 102400

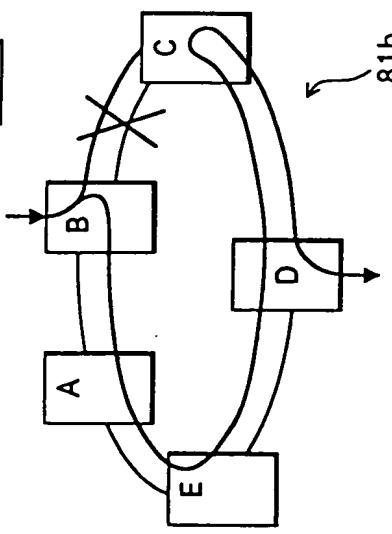
09695613 " 102400

FIG. 59(a)



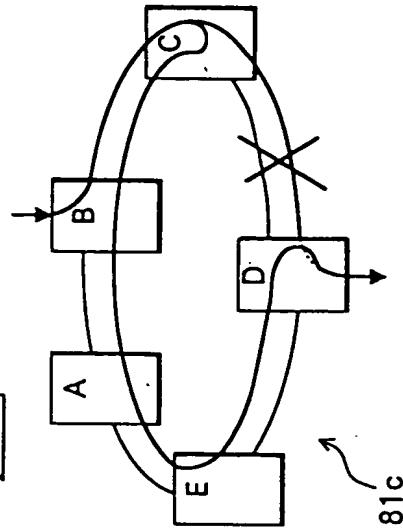
81a

FIG. 59(b)



81b

FIG. 59(c)



81c

FIG. 60

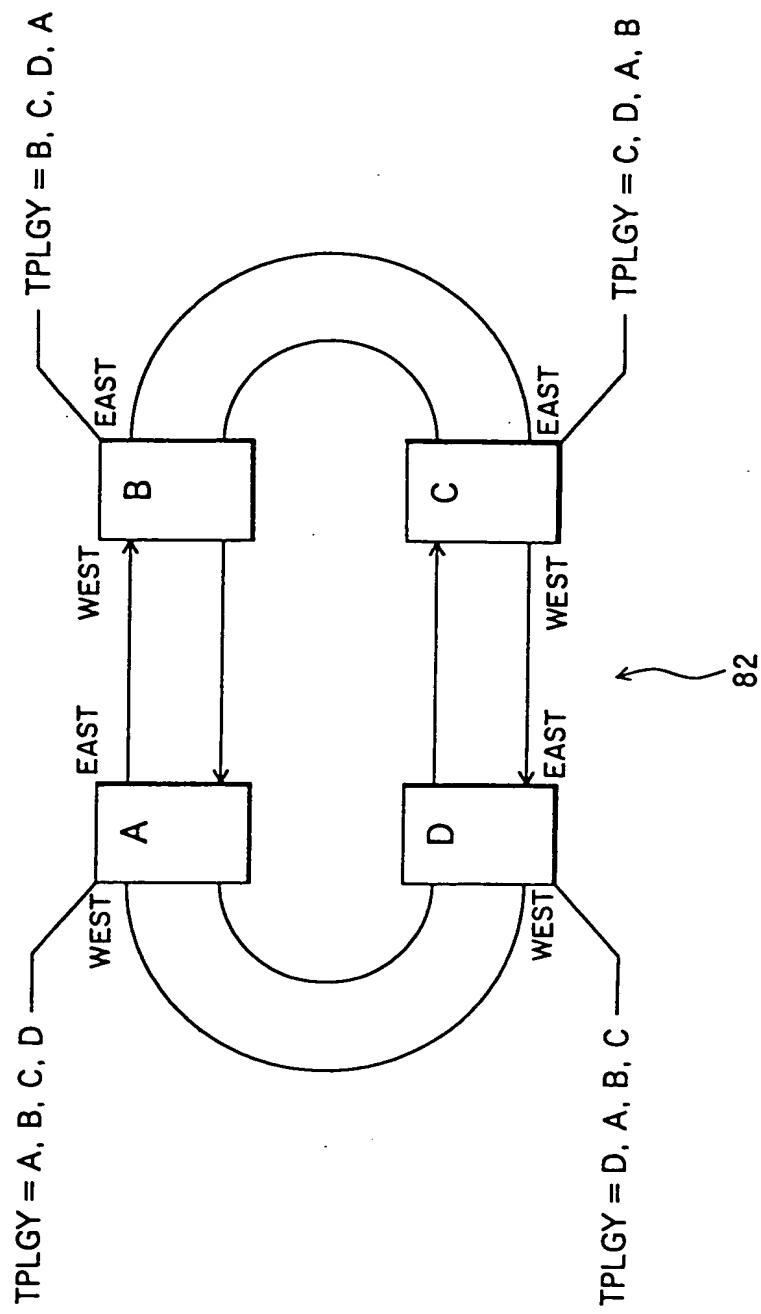


FIG. 61

EAST SIDE		WEST SIDE	
E → W DIRECTION	SOURCE	DESTINATION	SOURCE
W → E DIRECTION	DESTINATION	SOURCE	DESTINATION

EAST SIDE		WEST SIDE	
E → W DIRECTION	SOURCE	DESTINATION	SOURCE
W → E DIRECTION	DESTINATION	SOURCE	DESTINATION

SOURCE : 4 bits
DESTINATION : 4 bits

FIG. 62(a)

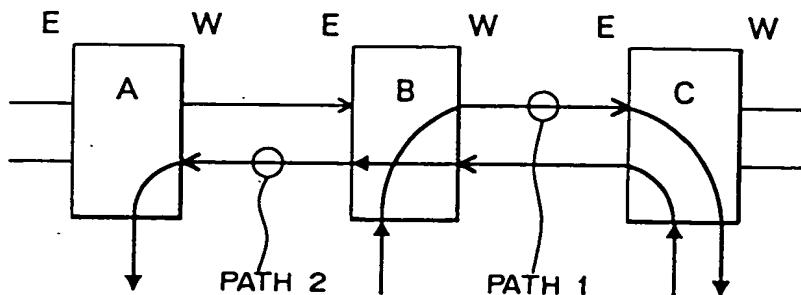


FIG. 62(b)

PATH	SOURCE NODE ID	DESTINATION NODE ID
1	B	C
2	C	A

FIG. 62(c)

		NODE A				NODE B				NODE C			
		EAST		WEST		EAST		WEST		EAST		WEST	
PATH	E-W					A	C <th data-kind="parent" data-rs="2">B</th> <td data-kind="parent" data-rs="2">C<th data-kind="parent" data-rs="2">B</th><td data-kind="parent" data-rs="2">C<th data-kind="parent" data-rs="2">A</th><td data-kind="parent" data-rs="2">C</td></td></td>	B	C <th data-kind="parent" data-rs="2">B</th> <td data-kind="parent" data-rs="2">C<th data-kind="parent" data-rs="2">A</th><td data-kind="parent" data-rs="2">C</td></td>	B	C <th data-kind="parent" data-rs="2">A</th> <td data-kind="parent" data-rs="2">C</td>	A	C
	E-W			A	C								
SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.
DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE	DEST.	SOURCE

00420T-E1956960

FIG. 63(a)

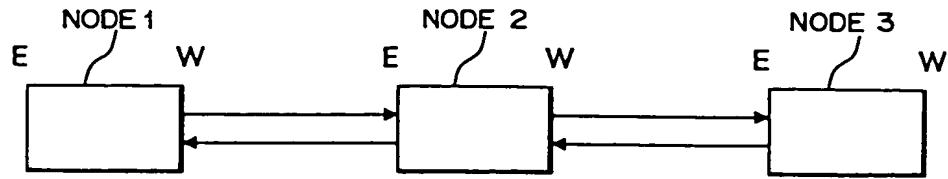


FIG. 63(b)

DEFAULT STATE

	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
E→W	1 1	1 1	2 2	2 2
W→E	1 1	1 1	2 2	2 2
E→W	2 2	2 2	3 3	3 3
W→E	2 2	2 2	3 3	3 3

FIG. 63(c)

ADD CROSSCONNECT SETTING AT NODE 1

	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
E→W	1 2	1 2	2 2	2 2
W→E	1 1	1 1	2 2	2 2
E→W	2 2	2 2	3 3	3 3
W→E	2 2	2 2	3 3	3 3

FIG. 63(d)

THROUGH SETTING IN E-W DIRECTION AT NODE 2

	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
E→W	1 3	1 3	1 3	1 3
W→E	1 1	1 1	2 2	2 2
E→W	3 3	3 3	3 3	3 3
W→E	2 2	2 2	3 3	3 3

FIG. 63(e)

DROP SETTING AT NODE 3

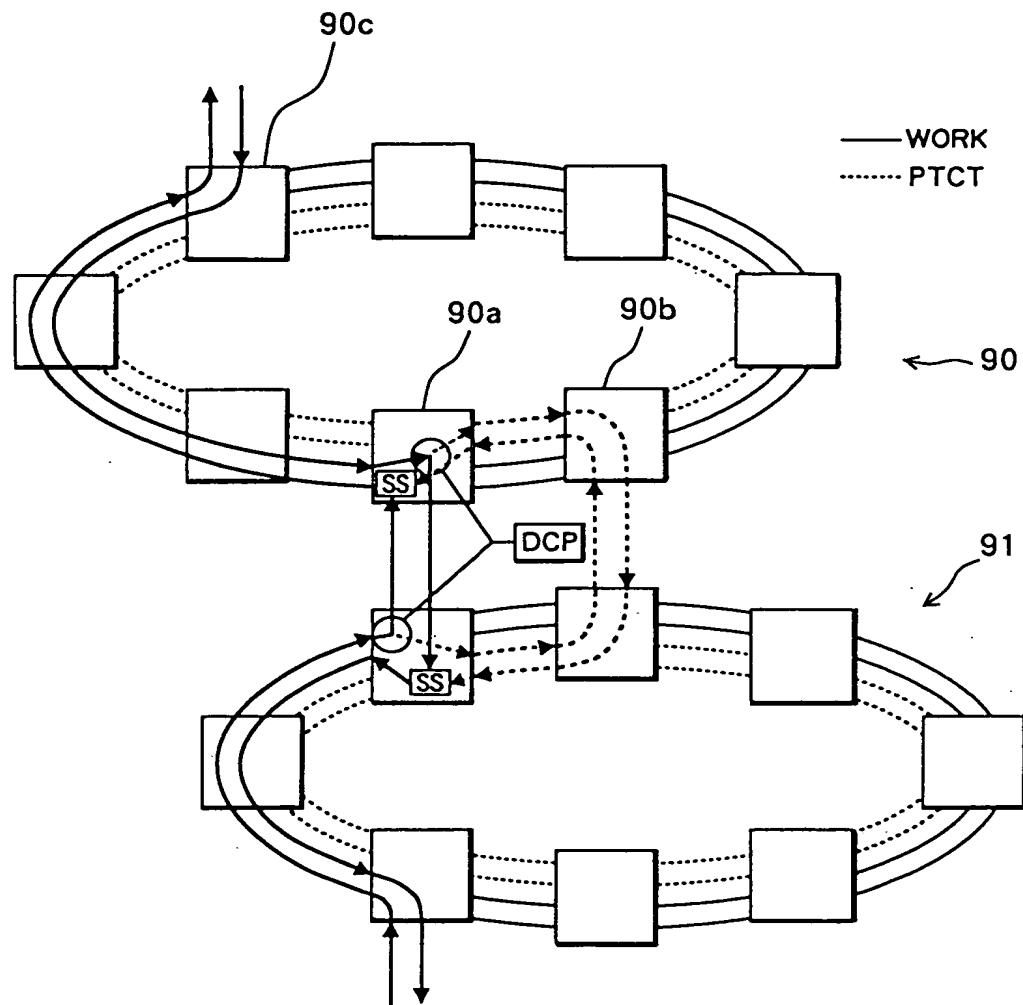
	TRANSMIT	RECEIVE	TRANSMIT	RECEIVE
E→W	1 3	1 3	1 3	1 3
W→E	1 1	1 1	2 2	2 2
E→W	1 3	1 3	1 3	1 3
W→E	2 2	2 2	3 3	3 3

FIG. 63(f)

SQUELCH DATA

	ADD NODE	DROP NODE	ADD NODE	DROP NODE	ADD NODE	DROP NODE
E→W	1	3	1	3	1	3
W→E	NONE	NONE	NONE	NONE	NONE	NONE

FIG. 64



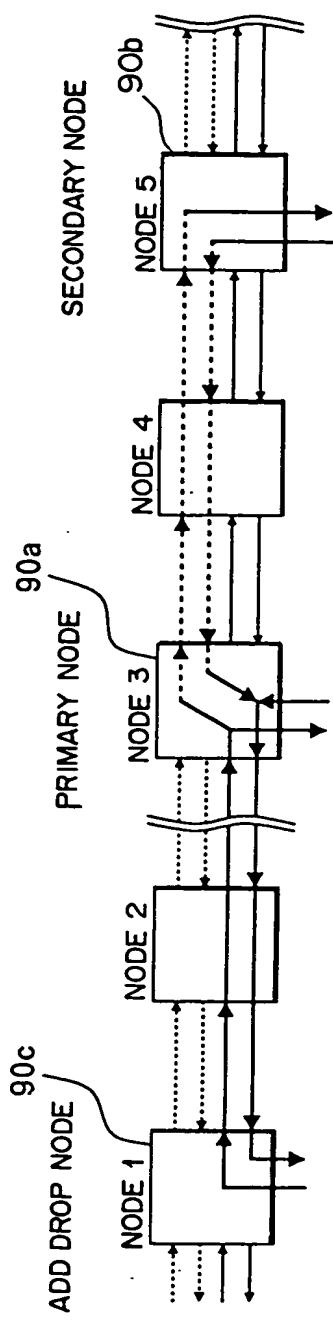


FIG. 65(a)

SQUELCH TABLE

ADD NODE	DROP NODE
1	5
5	1

FIG. 65(b) $E \rightarrow W$
 $W \rightarrow E$

NO SQUELCH DATA EXISTS
IN A SPAN IN WHICH PT
LINE IS USED

ADD NODE	DROP NODE
1	5
5	1

ADD NODE	DROP NODE
1	5
5	1

FIG. 66

	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Execute ADD/DROP control on PT line in a direction opposite to primary node, insert AIS in PT line toward primary node
Failure in working line not involving primary node	Inhibit "Continue on PT", fix switching of SS to ADD's side	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Inhibit "Continue on PT", fix switching of SS to ADD's side	Inhibit "ADD/DROP" to PT line

FIG. 67

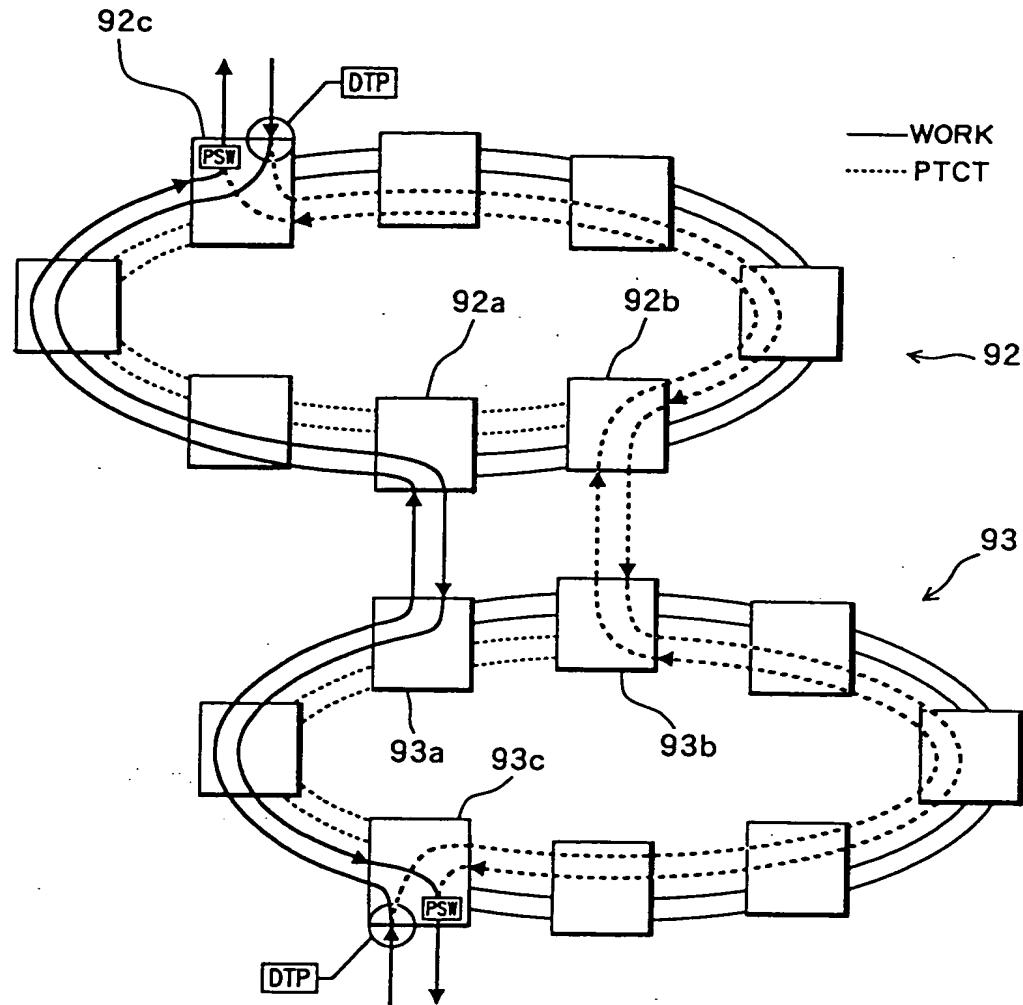


FIG. 68(a)

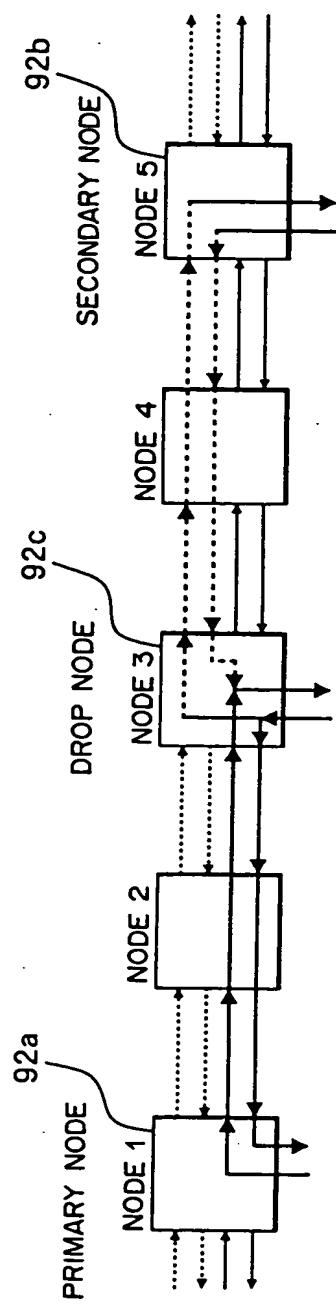


FIG. 68(b)

SQUELCH TABLE

ADD NODE	DROP NODE
5	3
3	5

ADD NODE	DROP NODE
5	3
3	5

ADD NODE	DROP NODE
5	3
3	5

FIG. 69

	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Keep executing "ADD/DROP" on PT line
Failure in working line not involving primary node	Perform normal switching operation, operate as a through station when being a through station	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Same the above	Inhibit "ADD/DROP" to PT line
Failure in working line or PT line involving terminal node	Same the above	Same the above

F I G. 70

SINGLE-SIDED DCW STRUCTURE

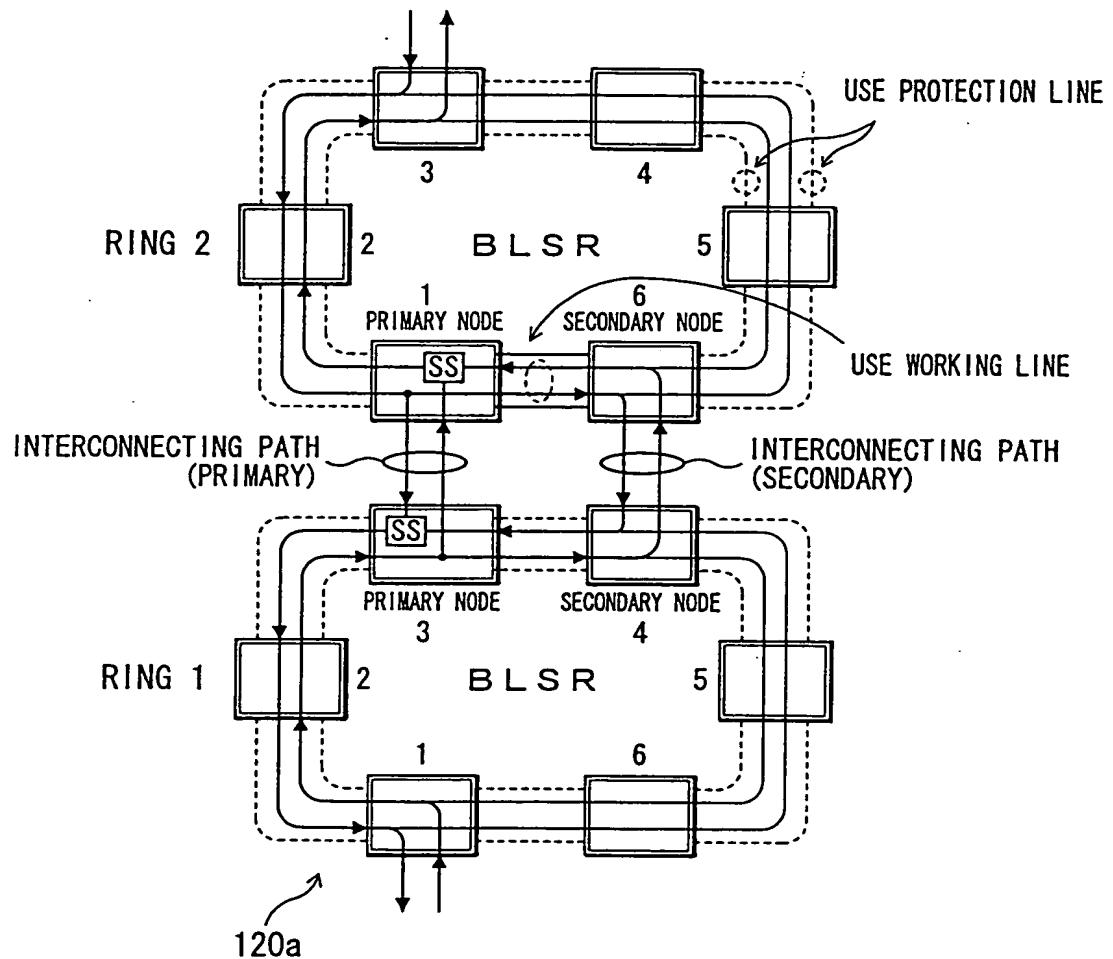


FIG. 71

DTW STRUCTURE

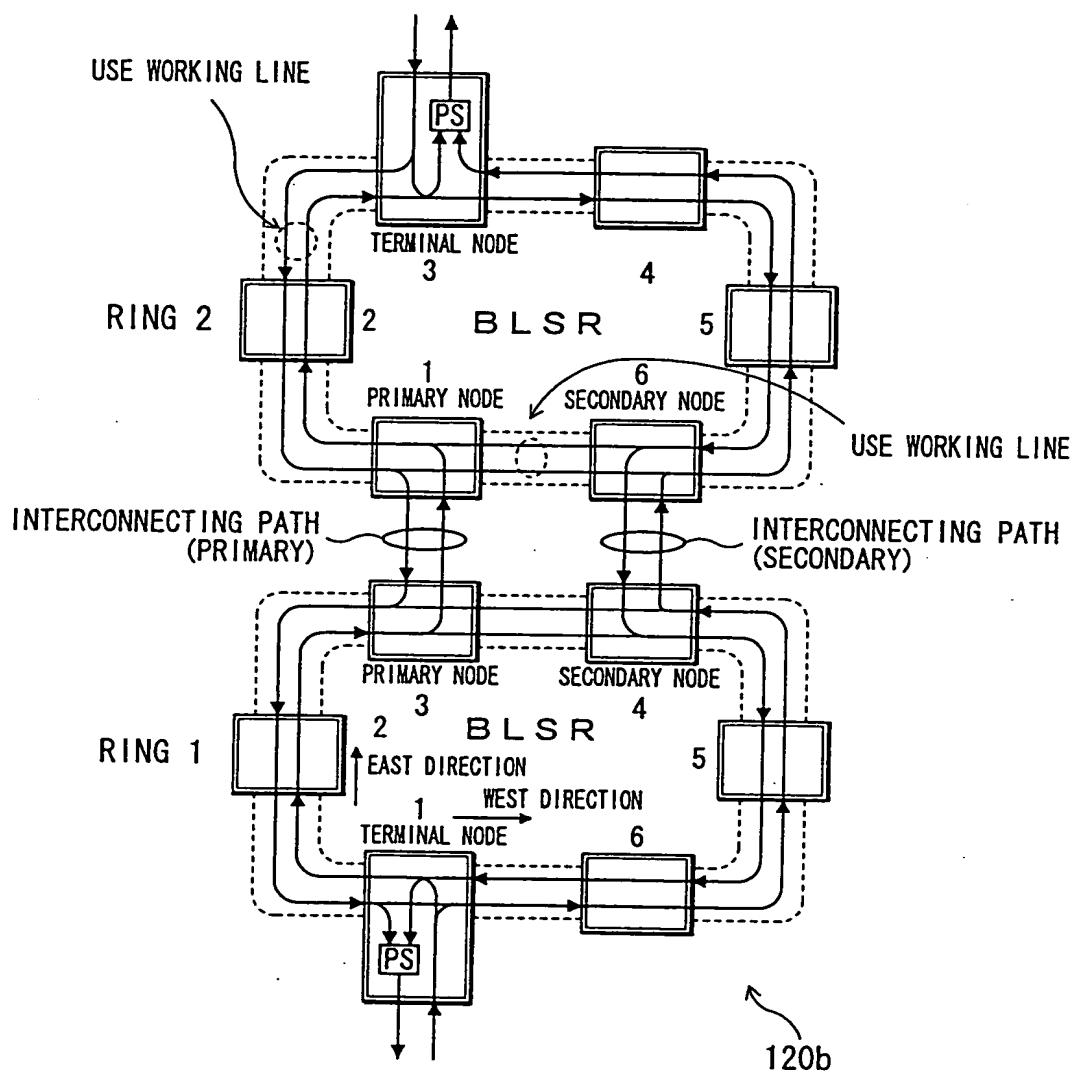


FIG. 72

SINGLE-SIDED DCP STRUCTURE

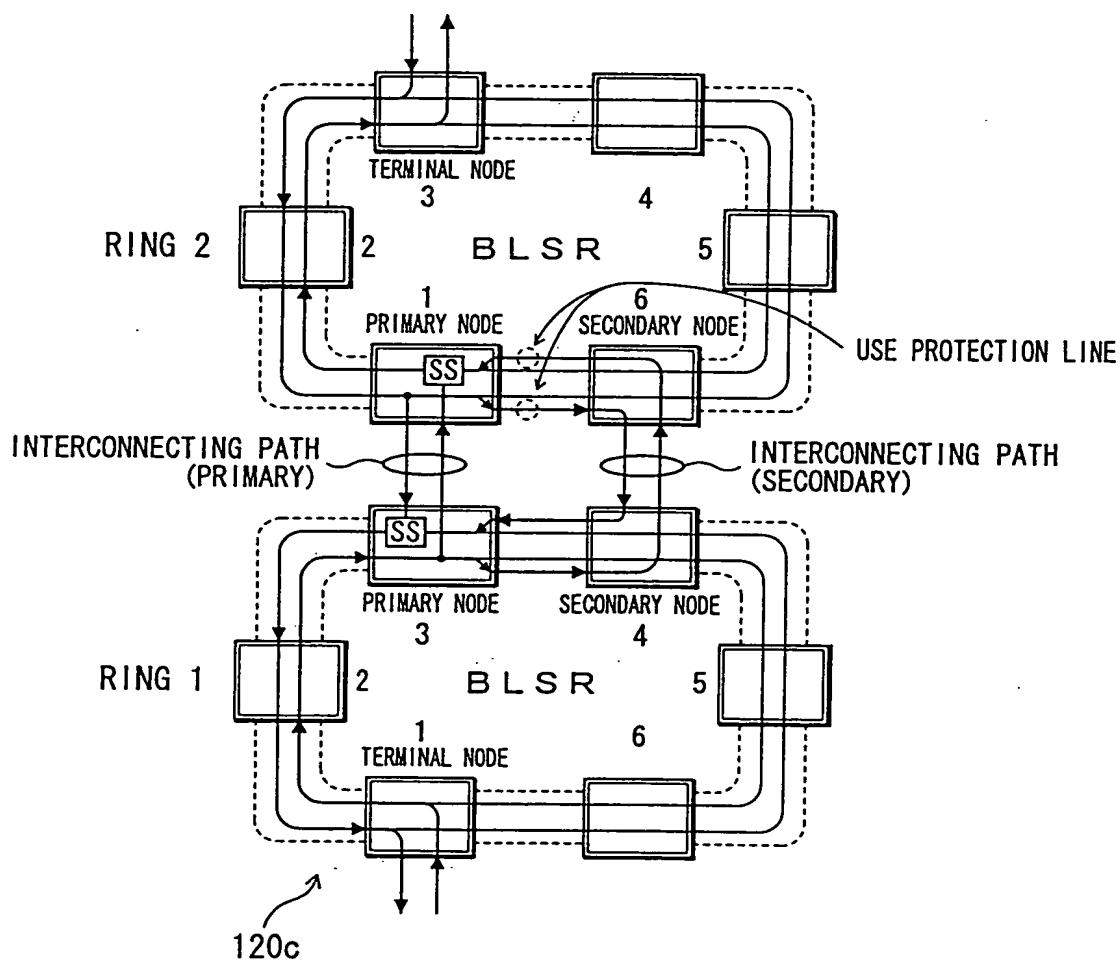


FIG. 73

DTP STRUCTURE

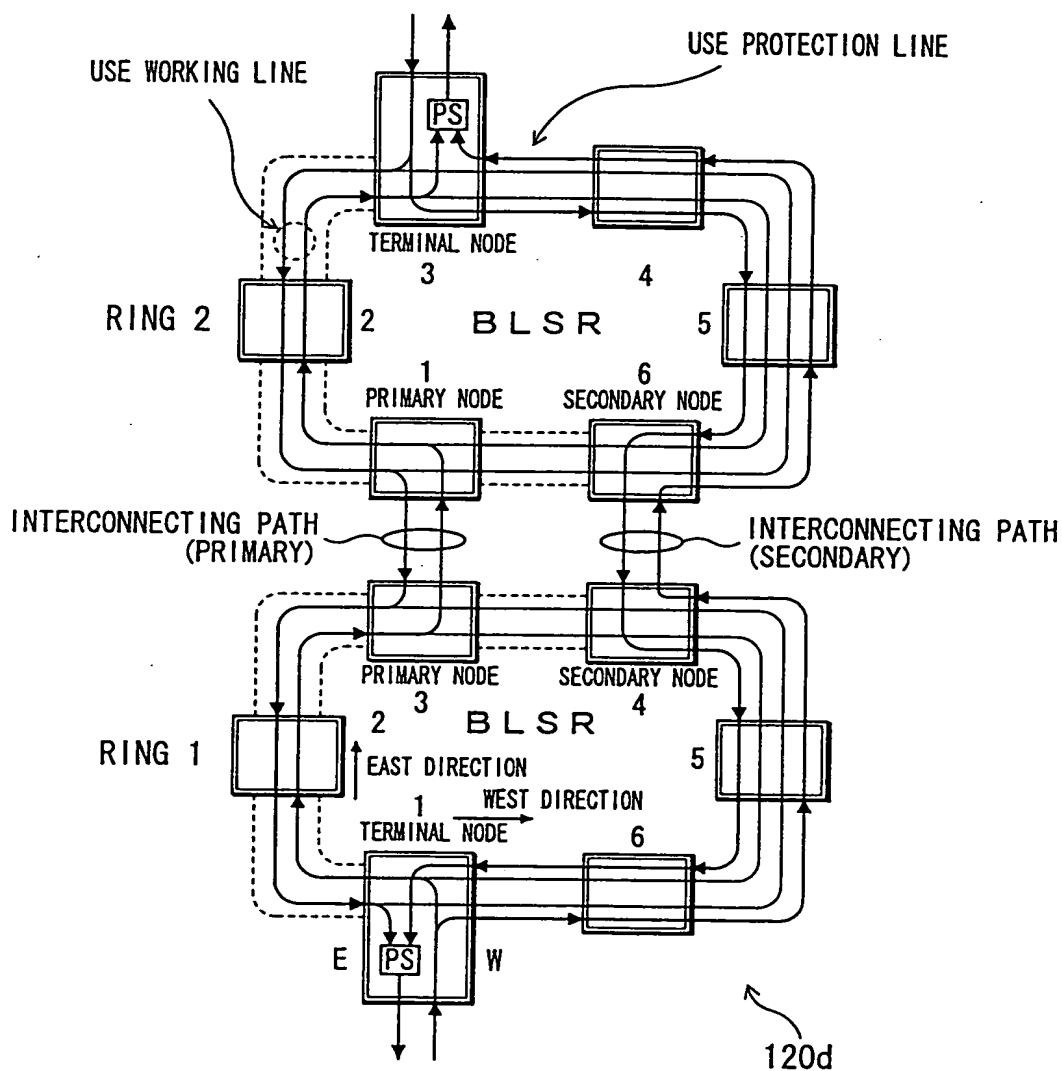


FIG. 74

NORMAL OPERATION IN NORMAL-BLSR

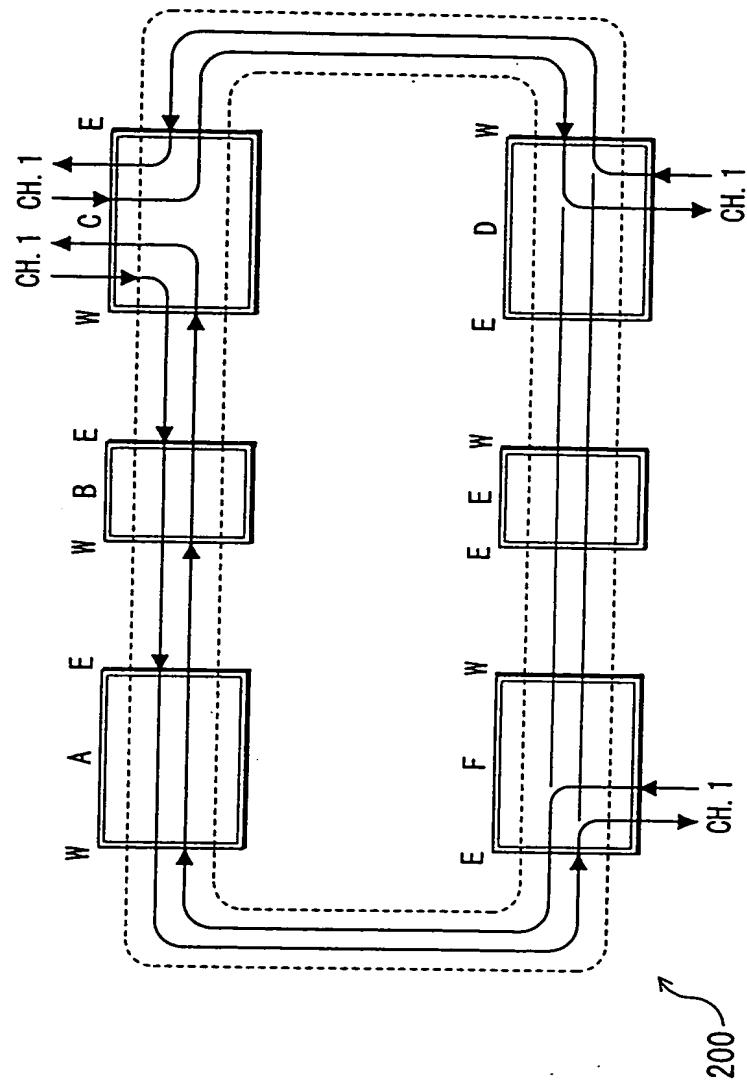


FIG. 75

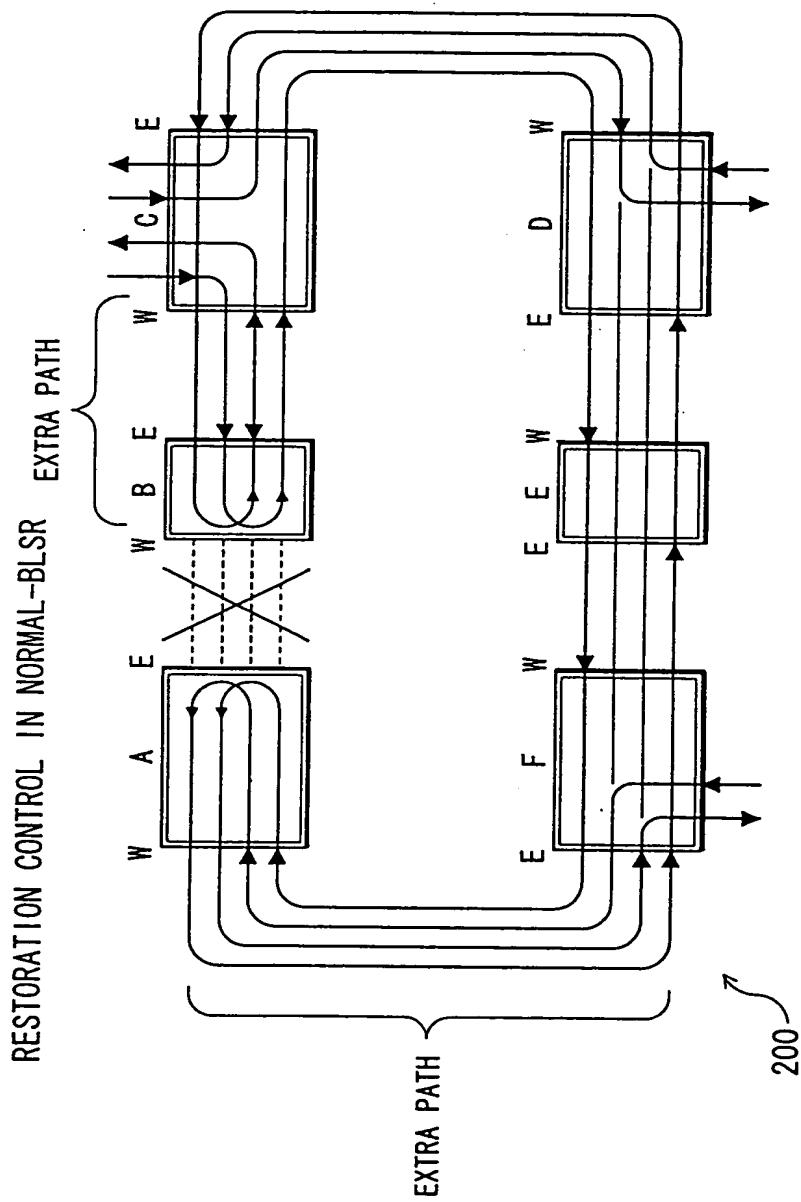


FIG. 76

DCP-DCW STRUCTURE

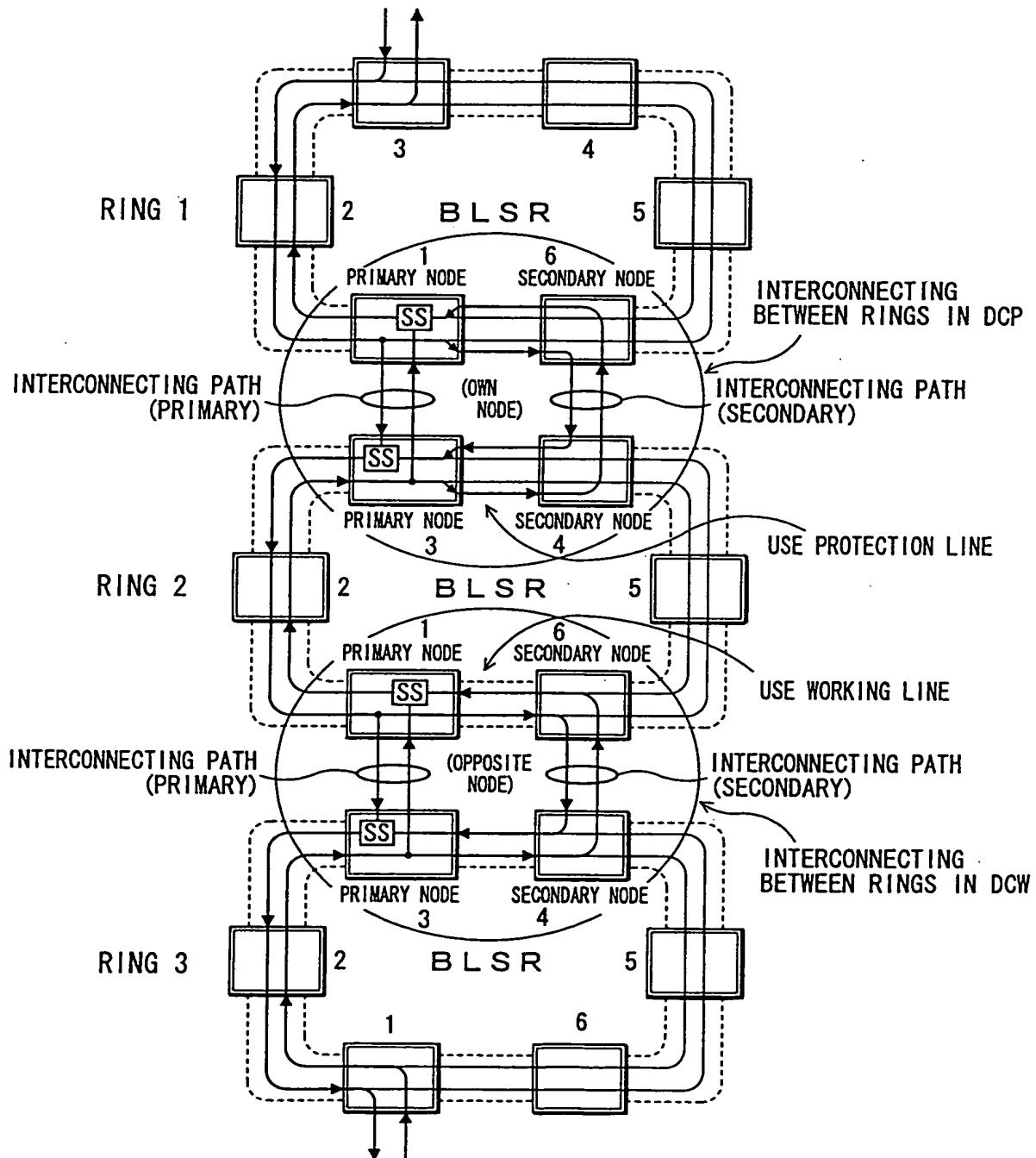


FIG. 77

DCP-DCW STRUCTURE

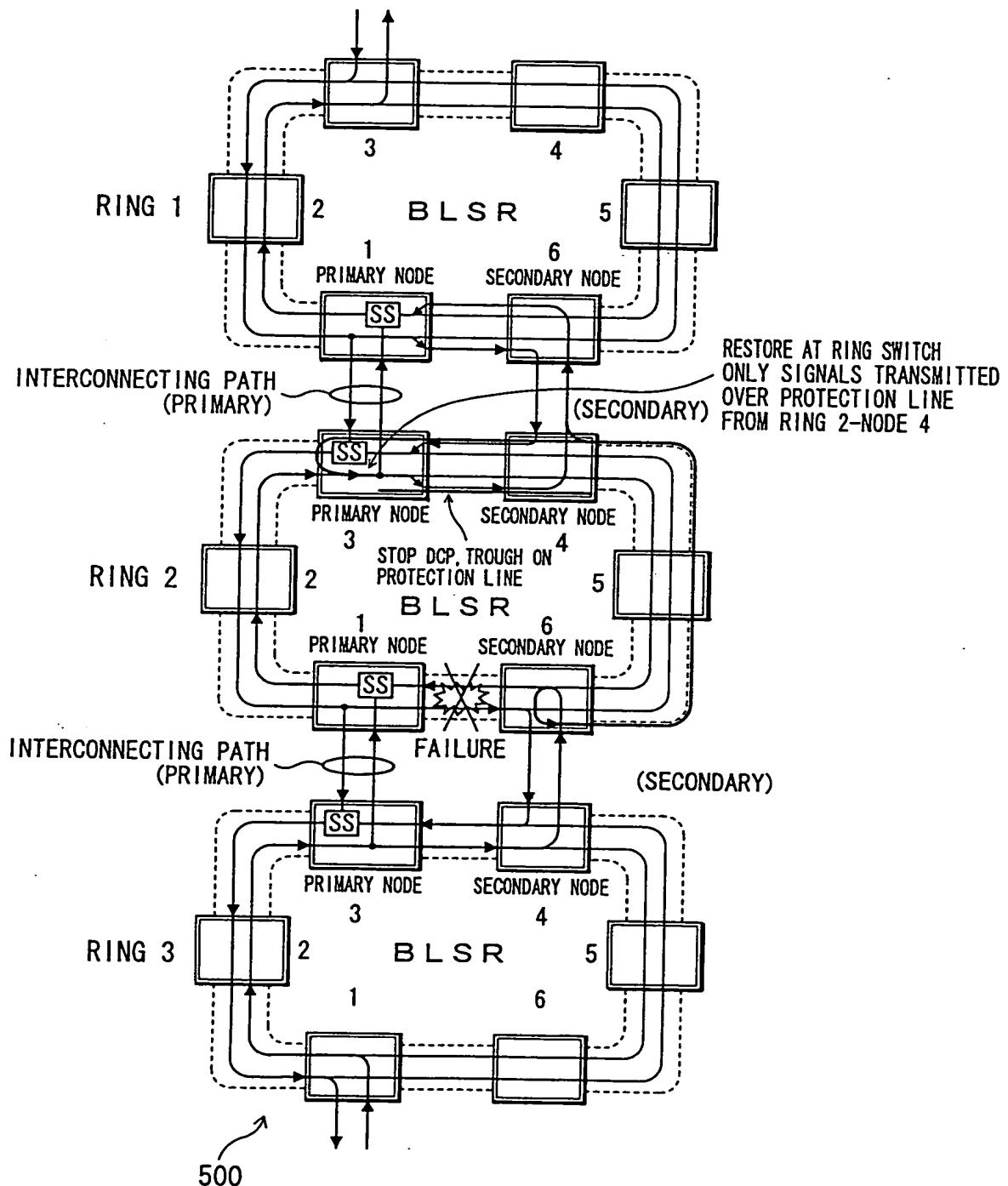


FIG. 78

DCP-DCW STRUCTURE

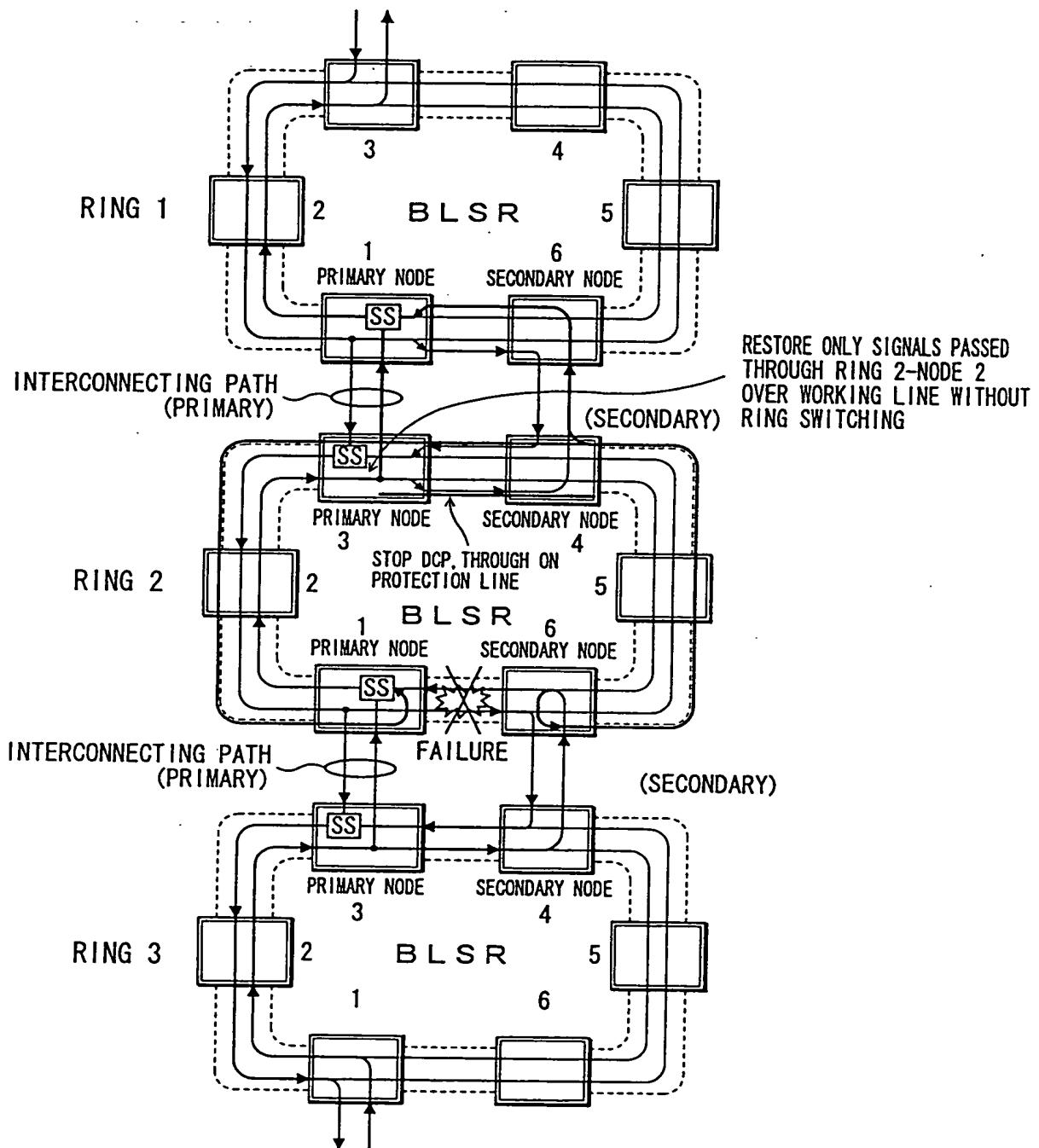


FIG. 79

DCP-DCW STRUCTURE

